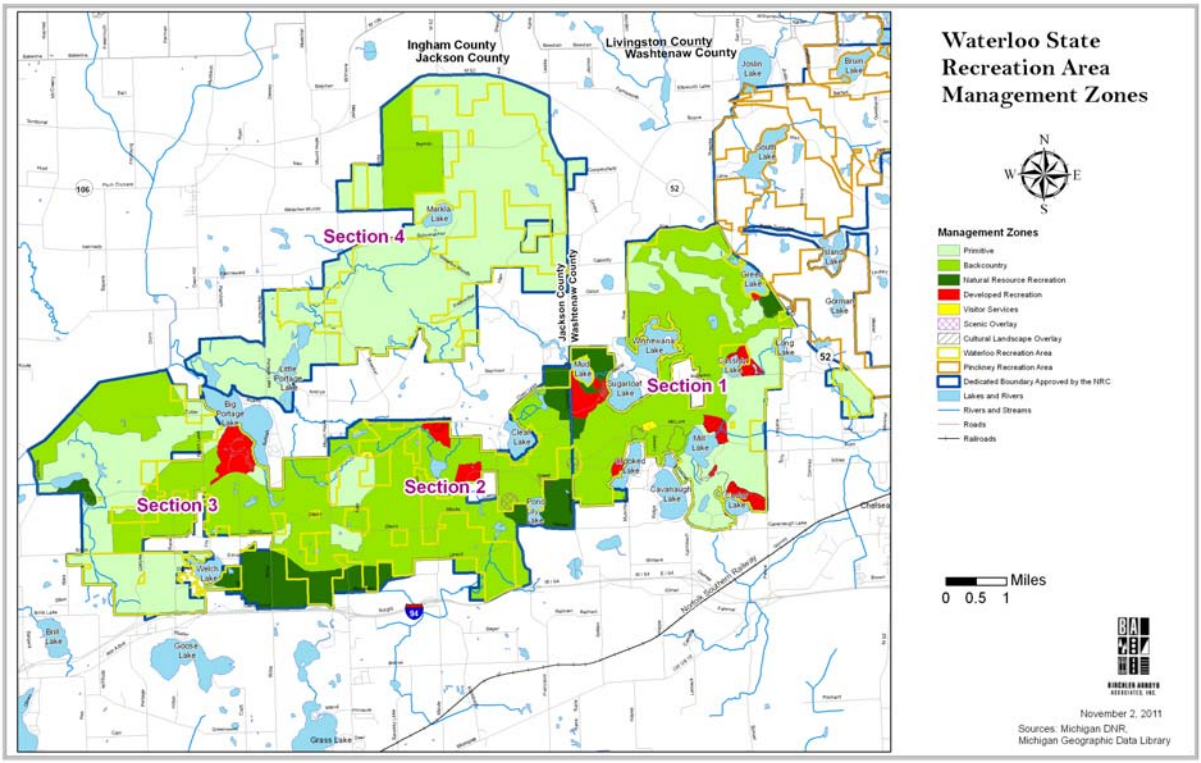
General Management Plan

Long-range management guidance focused on the specific natural resources, historic-cultural resources, recreation opportunities and the education-interpretation opportunities of…

Waterloo Recreation Area



The project was directed by Paul N. Curtis, Management Plan Administrator Michigan Department of Natural Resources, Parks & Recreation Division with assistance from Birchler Arroyo Associates, Inc.;

PLAN APPROVALS:

Chief, Parks & Recreation Division	Date
Deputy Director, Natural Resources	Date
Director, Department of Natural Resources	Date

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Executive Summary

Waterloo Recreation Area, with 20,125 acres, is located in both Jackson County and Washtenaw County, Michigan. The Department of Natural Resources (DNR) Parks & Recreation Division (PRD) oversaw the planning process. The endeavor represents a new planning philosophy of the PRD. "Management Planning," a comprehensive, resource-based process is the PRD's adaptation of National Park Service planning methodology. During Phase 1, the GMP focuses on the four principles of the PRD Mission Statement: to acquire, preserve, and protect; (1) natural resources, (2) cultural resource, (3) provide public recreation, and (4) provide education opportunities. The process includes a thorough inventory of Waterloo Recreation Area's natural and historic/cultural resources, recreational opportunities and education and interpretation opportunities.

With this base of knowledge and input of the Planning Team (made up of DNR staff, government officials, stakeholders and the public), the Core Values for Waterloo Recreation Area were developed. Waterloo Recreation Area was determined to be significant for the following reasons:

- Waterloo Recreation Area features more rare animals and plants species, and more exemplary natural communities, than any other park in State system.
- Waterloo Recreation Area is co-managed by the Wildlife and Parks and Recreation Divisions; is the third largest property in the State park system; and is the largest in the Lower Peninsula.
- The recreation area has a rich cultural history including 4 eligible historic districts.
- The Eddy Discovery Center, located within the recreation area, offers a nature study area and interpretive activities. There is a large area around Discovery Center where hunting & snowmobiles are not allowed, maintaining quiet in Fall & Winter.
- A variety of camping opportunities are available at the recreation area, including rustic sites and modern campgrounds.
- Recreational opportunities include a disc golf course and extensive equestrian trails, as well as opportunities for fishing, boating, hunting, trapping, birding, and cross country skiing.
- The proximity of the Aggregate Industries operation offers the opportunity to add land to the recreation area as mining reclamation is completed.
- The size of Waterloo Recreation Area is significant in relation to the regional population center, and is enhanced by its proximity to Waterloo Recreation Area. The recreation areas

offer an “up north” feel in southeast lower Michigan due to their combination of land mass and natural features.

- The recreation area is adjacent to the Audubon Society’s Haehnle Sanctuary, a popular viewing area of local habitat for sand hill cranes.
- The recreation area has several important volunteer programs, including the Michigan United Conservation Clubs, which operates the Cedar Lake group camp outdoor center under contract, and two active Friends groups, including the Waterloo Natural History Association and the Waterloo Horsemen’s Association.
- Due to its opportunities, several organizations use the recreation area and are located nearby, including the Waterloo Hunt Club, the Farm Museum (operated by the Historical Society) and private equestrian campgrounds adjacent to equestrian trails.
- There is an idle stable facility, which has the potential to provide additional opportunities for horseback riding within the recreation area.
- In addition to multiple boat launches for motor boats, there are several “quiet” opportunities for boating that feature gravel and hand-carry launches.
- There are designated Natural Beauty Roads within the Waterloo Recreation Area.

Considering the identity and significance of Waterloo Recreation Area, the Planning Team, with stakeholder and public input, established appropriate Management Zones and the extent of influence on the property. From a palette of nine standard zones, seven were applied to Waterloo Recreation Area. The Management Zone map and a thorough review of each Management Zone are found in Section 3 of this Plan. A condensed view of the Management Zones is as follows:

- Primitive Zone comprises 9,602 acres, or 47.7%, and will reflect a desired condition that emphasizes the natural resources. The allowance of recreational uses should depend on attaining and maintaining a high quality natural resource condition.

- Backcountry Zone comprises 8,773 acres, or 43.6%, and emphasizes resource quality over recreation, but allows for modification of landscape to allow for moderate levels of active recreation uses. Most of park’s extensive trail system is located in this zone.

- Natural Resource Recreation Zone comprises 795 acres, or 3.9% and permits active recreation with medium to high density of use conducted in natural areas. There is still an emphasis on resource quality over recreation, but in this zone, higher levels of use are allowed.

- Developed Recreation Zone comprises 924 acres, or 4.6%, and allows active recreation with high density of use conducted in areas not designated for natural resource significance. In this zone, recreation dominates with natural resource attributes enhances as possible. The park’s modern campgrounds, day-use beaches, boat launch sites, and parking areas are found in this zone.

- Visitor Services Zone comprises 31 acres, or 0.15%, and encompasses those areas required for program administration and operations. This zone includes the office, contact station, and maintenance facilities that support the business of running a state park. The current headquarters for the park will be in the Visitors Services Zone.

- Scenic Overlay Zone comprises 78 acres, or 0.39% and recognizes that there are aesthetic qualities to be preserved and protected in the park. While there are many such scenic areas, those identified during the planning process, and noted on the management zone plan, are at high points in the central portion of the park.

- Cultural Landscape Overlay Zone comprises 293.7 acres, or 1.5% and addresses the overall setting in which is found not only historic structures, but also non-structural evidence of the traditions, beliefs, practices, lifeways, arts, crafts and social institutions of any community.

Planning Team, stakeholder, and public input explored the concepts for trail connections between Pinckney and Waterloo Recreation Areas. Appropriate zones have been designated in general areas where such trails may be possible. Trail connections will be explored in more detail during Phase 2 of the General Management Plan.

1.0 Plan Process Overview

A General Management Plan (GMP) guides the management of resources, visitor use, and general development at Waterloo over a 20-year horizon. The GMP provides the foundation for protecting park resources while providing for meaningful visitor experiences. The long-range vision and management objectives for the park are derived from applicable legal directives, the purpose of the park, and the park's significant natural and cultural resources.

GMPs develop as a result of a series of planning steps. Each step builds upon the previous, and action decisions focus on (1) the mission of the Parks & Recreation Division (PRD), and (2) the specific Purpose and Significance of the park. There are four phases of planning, implemented in the following order:

- **Phase 1.** General Management Plan (GMP) that presents long-range goals (20-year).
- **Phase 2.** Long-range Action Goals Plan that identifies 10-year action strategies to attain the GMP (requires review of Phase 1)
- **Phase 3.** Five-Year Implementation Plan, which outlines specific actions to implement (requires review of Phase 1 and Phase 2)
- **Phase 4**. Annual Action Plan and Progress Report to answer what will be done this year, and what progress was made on last year's plan.

This Plan represents **Phase I**. In this phase of planning, a 20-year vision for the park is defined, and critical questions are answered, such as: What will be the condition of flora and fauna? How will we address historic and cultural resources? What recreational opportunities could be provided? What education and interpretation efforts will meet the visitor? What will guide the manager's operational decisions? What will be the visitor's overall experience?

Phase I determines management zones, and describes a variety of activities that may be appropriate within each zone. Phase I does not determine specific uses. Identifying specific uses within each management zone is a function of Phase 2. Management Plans do not guarantee future RD funding to achieve them. RD will seek internal funding, alternative funding sources, partnerships and other potential mechanisms for implementing the desired future conditions defined in this plan.

The tool used by this plan is the designation of "Management zones." Management zones define specific characteristics of the land, addressing management for:

- Natural features
- Historic/cultural features
- Education/interpretation
- Recreational opportunities

These four elements represent the primary goals of the PRD Mission Statement, and provide guidance for both planning and management decisions. Appendix A presents a detailed account of each of these elements. In addition, management zones prescribe values for:

- Visitor experience
- Management Focus
- Development

Within the parameters of this guidance, “Purpose” and “Significance” statements are developed for the park that establish its unique identity and focus. No two parks are the same and emphasis is directed at ensuring that the differences found from park to park are acknowledged, highlighted and celebrated.

1.1 Planning Objectives

The objective of this General Management Plan was to bring together Parks & Recreation Division staff, stakeholders, and the public who use the park into a planning process that will define and clarify the unique “Purpose” and “Significance” of Waterloo Recreation Area. Collectively, those attributes will be reinforced in the planning and management decisions that impact the park through the implementation of the Management Zone Plan. Future action plans, whether focused on a development proposal, a resource improvement initiative, an interpretive program, or day-to-day management of the park will be guided by this General Management Plan.

Extensive input was sought throughout the planning process. The Planning Team, identified in the section that follows, met several times to review, develop, and comment on the plan elements. In addition, the DNR hosted a stakeholder workshop and a public participation workshop. Both the stakeholder and public participation workshops involved solicited written and verbal comments. The draft plan was available for review on a website and the public was invited to email, call or mail questions or comments concerning this initiative. The results of the public participation program are provided in Appendix B.

1.2 Planning Team

Accomplishment of our planning objectives was and is dependent upon the valuable input provided by all members of the “Planning Team.” The names listed below are those who were critical participants in this planning process. Agendas, meeting minutes and attendance at Planning Team meetings is provided in Appendix C.

DNR STAFF

Paul N. Curtis	PRD	Park Management Plan Administrator
Paul Yauk	PRD	Lands Manager
Rob Corbett	PRD	Acquisitions and Exchanges Case Manager
Murdock Jemmerson	PRD	Rose Lake District Supervisor
Joe Strach	PRD	SW Michigan Region Planner
Ray Fahlsing	PRD	Stewardship Unit Manager
Lisa Gamero	PRD	Cultural Resource Analyst
Alicia Selden	PRD	Natural Resource Analyst
Chuck Dennison	PRD	Pinckney RA Manager
Barb McCarter	PRD	Pinckney RA Lead Worker
Gary Jones	PRD	Waterloo RA Manager
Greg Byce	PRD	Waterloo RA Supervisor
Katie McGlashen	PRD	Interpreter Waterloo RA
Tim Payne	WD	Southeast Region Manager
Kristin Bissell	WD	Wildlife Biologist
Chad Fedewa	WD	Wildlife Technician
Jeff Braunscheidel	FD	Fisheries Biologist (Lk. Erie Watershed)
Scott Hanshue	FD	Fisheries Biologist (Lk. Michigan Watershed)
Tom Hoane	FMD	FMD – Geologist
Bruce Miller	FMD	Fire Officer
Jane Gordon	LED	Lieutenant
Jason Smith	LED	Conservation Officer
Damon Owens	LED	Conservation Officer (Jackson County)
John Spieles	M&O	Interpreter Manager
Kevin Frailey	M&O	Education Services Manager

Consultants
David Birchler, Birchler Arroyo Associates, Inc.
Jill Bahm, Birchler Arroyo Associates, Inc.
Sheila Starks, Birchler Arroyo Associates, Inc.

1.3 Management Plan Planning Process

Management Planning is a defined strategic process within the Parks & Recreation Division Strategic Plan (2009), reflecting the following Goals and Objectives:

- Goal 1, Objective 1.2: Strengthen, update, and implement Management Plans.
- Goal 3, Objective 3.1: Perform landscape level assessment of recreation opportunities in decision making.
- Goal 8, Objective 8.1: Continue to use the MSPAC (Michigan State Parks Advisory Committee), MSWC (Michigan State Waterways Commission), NRC (Natural Resources Commission), SWC (Statewide Council), and Ecoregion Teams and partners to advise in Parks & Recreation Division planning, policy development, and issue resolution.

2.0 Core Values

2.1 Mission Statements

Guidance for the General Management Plan stems from the Mission Statements of the Department and its Parks & Recreation Division, and the Purpose and Significance Statements that have evolved through the planning process. The core values found in these statements must be reflected in this long-range General Management Plan for Waterloo Recreation Area, and subsequently reflected in any shorter range action plans:

DNR Mission Statement

The Michigan Department of Natural Resources is committed to the conservation, protection, management, use and enjoyment of the state's natural and cultural resources for current and future generations.

PRD Mission Statement

The Parks & Recreation Division's Mission is to acquire, protect, and preserve the natural and cultural features of Michigan's unique resources, and to provide access to land and water based public recreation and educational opportunities.

The core values derived from the statements are that PRD will acquire, preserve, and protect: (1) natural resources, (2) cultural resources, (3) provide public recreation, and (4) provide educational opportunities.

2.2 Park Purpose

Park purpose statements are based on park legislation, legislative history, special designations and DNR policies. These statements reaffirm the reasons for which Waterloo Recreation Area was identified as part of the state park system.

1. To be used as a public park, pursuant to the intentions of the park first being created in the 1943 as it was acquired piece by piece by the State.
2. To preserve and protect Waterloo Recreation Area's unique natural resources for current and future generations.
3. To provide diverse recreational opportunities to nearby populations.
4. To provide educational and interpretive opportunities for the public that reflect the DNR mission and the unique qualities of Waterloo Recreation Area.

2.3 Statements of Significance

Park Significance statements capture the essence of the park's importance to our state's natural and cultural heritage. These statements demonstrate the distinctiveness of Waterloo Recreation Area. Understanding the park's significance helps managers make decisions that preserve those resources and values necessary to accomplish the park's purpose.

- Waterloo Recreation Area features more rare animals and plants species, and more exemplary natural communities, than any other park in State system.
  - The Black spruce bog is a National Natural Landmark and State Natural Area.
  - The recreation area provides habitat for the Indiana bat, which is Federally endangered.
  - Doyle Lake features an exemplary aquatic community.
  - The recreation area also contains a Waterfowl Production Area (WPA).
- Waterloo Recreation Area is co-managed by the Wildlife and Parks and Recreation Divisions; is the third largest property in the State park system; and is the largest in the Lower Peninsula.
- The recreation area has a rich cultural history.
  - There are 70 cultural, historic, prehistoric and ethnological resource sites within its boundaries.
  - It was established as a National Recreation Demonstration area by the federal government in the 1930's.
  - There are 4 eligible historic districts, including: a prisoner of war camp (Camp Waterloo); Mill Lake, built by the Works Project Administration (WPA); Cedar Lake, built by the Civilian Conservation Corps (CCC); and Cassidy Lake, built during the New Deal by the National Youth Administration (NYA), a division of the WPA.
- The Eddy Discovery Center, located within the recreation area, offers a nature study area and interpretive activities. There is a large area around Discovery Center where hunting & snowmobiles are not allowed, maintaining quiet in Fall & Winter.
- A variety of camping opportunities are available at the recreation area, including rustic sites and modern campgrounds.
- Recreational opportunities include a disc golf course and extensive equestrian trails, as well as opportunities for fishing, boating, hunting, trapping, birding, and cross country skiing.
- The proximity of the Aggregate Industries operation offers the opportunity to add land to the recreation area as mining reclamation is completed.
- The size of Waterloo Recreation Area is significant in relation to the regional population center, and is enhanced by its proximity to Pinckney Recreation Area. The recreation areas offer an "up north" feel in southeast lower Michigan due to their combination of land mass and natural features. The two recreation areas offer the largest area for recreational hunting in southeast lower Michigan.
- The recreation area is adjacent to the Audubon Society's Haehnle Sanctuary, a popular viewing area of local habitat for sand hill cranes.
- The recreation area has several important volunteer programs, including the Michigan United Conservation Clubs, which operates the Cedar Lake group camp outdoor center

under contract, and two active Friends groups, including the Waterloo Natural History Association and the Waterloo Horsemen's Association.

- Due to its opportunities, several organizations use the recreation area and are located nearby, including the Waterloo Hunt Club, the Farm Museum (operated by the Historical Society) and private equestrian campgrounds adjacent to equestrian trails.
- There is an idle stable facility, which has the potential to provide additional opportunities for horseback riding within the recreation area.
- In addition to multiple boat launches for motor boats, there are several "quiet" opportunities for boating that feature gravel and hand-carry launches.
- There are designated Natural Beauty Roads within the Waterloo Recreation Area.

2.4 Legal Mandates

For all park General Management Plans, all legal mandates will be identified and will serve to further guide the development of the General Management Plan and subsequent Action Plans. For our planning purposes, the term "Legal Mandates" refers to not only state law, but also the administrative tools of "Policy" and "Directive" of the Natural Resource Commission, the Department, and the Parks & Recreation Division. Examples include Wildlife Conservation Orders, Orders of the Director, and all other laws, commission orders, and rules or directives that apply to the park. Specific to Waterloo Recreation Area, several legal mandates have been identified, which are listed below.

<u>DNR Policy 26.04-04 - Use of State-Owned Lands Administered by the Michigan Department of Natural Resources (ISSUED: 02/01/2006)</u>

- The policy mandates that NRC will manage state-owned lands in a manner that protects and enhances the public trust while providing for the use and enjoyment of those lands as outlined in the Natural Resources and Environmental Protection Act.

<u>National Pollutant Discharge Elimination System (NPDES) Permit, including Storm Water Runoff Discharge Authorization</u>

- The purpose of this permit is to control the discharge of pollutants into surface waters of the state to protect the environment.
- The Water Division within the Michigan Department of Natural Resources has responsibility of processing NPDES permits.

<u>PA 35 of 2010, Part 741 ("Recreation Passport")</u>

- This act amended the Michigan Motor Vehicle Code to provide for a State Park and State-operated public boating access site "Recreation Passport" that a Michigan resident may obtain by paying an additional fee when registering a motor vehicle.
- The Recreation Passport is required for entry into all PRD administered facilities and takes the place of the Motor Vehicle Permit (MVP).

<u>PA 368 OF 1978, ARTICLE 12 - ENVIRONMENTAL HEALTH, PART 125 – CAMPGROUNDS – Part 125 of the Public Health Code</u>

- Established to protect and promote the public health by establishing health code requirements specifically addressing campgrounds.
- All public (including DNR) and private campgrounds must meet these regulations.

- Campground wastewater system must meet the construction permit, design, and operation requirements under Michigan's Public Health Code.

PA 451 of 1994, PART 22, CAMPGROUND WASTEWATER SYSTEMS

- Administered by the Water Division, Permit Section Groundwater Discharge Unit.
- These rules apply to all campground wastewater systems and regulate discharges to groundwater.

PA 451 of 1994, Part 303 - WETLANDS PROTECTION (formerly Act No. 203, P.A. 1979 Wetland Protection Act)

- Administered by the DNR and part of the Natural Resources and Environmental Protection Act, this legislation provides clarification and guidance on interpreting Part 303 by defining specific rules for the regulation of wetlands in Michigan.
- The law requires that persons planning to conduct certain activities in regulated wetlands apply for and receive a permit from the state before beginning the activity.

PA 451 OF 1994, PART 419 - HUNTING AREA CONTROL

- Administered by the DNR, this part of PA 451 establishes the powers of the Department to establish safety zones for hunting.

PA 451 OF 1994, PART 504 - STATE LAND USE RULES / LAND USE ORDERS OF THE DIRECTOR

- Administered by DNR Law Division.
- States that the department shall promulgate rules for the protection of the lands and property under its control against wrongful use or occupancy.

PA 451 OF 1994, PART 741 - STATE PARK SYSTEM - NATURAL RESOURCE AND ENVIRONMENTAL PROTECTION ACT

- Notable in this law is Section 324.74102, which identifies the duties of the DNR and reinforces those core values concerning preservation, protection and management cited above.

WILDLIFE CONSERVATION ORDERS

- Established by the Natural Resources Commission (NRC).
- Describes hunting and trapping regulations including methods of take, bag limits, license quotas, and season dates are established by the NRC and are described in the Wildlife Conservation Orders

2.5 Land Acquisitions & Funding Sources

During the 1930's and early 1940's, the National Park Service (NPS) program developed the Recreation Demonstration Area program, which involved the establishment of 46 recreational demonstration areas within 24 U.S. states. To assist with the development of these parks, the NPS used labor from a variety of Great Depression federal relief programs, including the Civilian Conservation Corps and Works Progress Administration. The Federal Government spent over $2,000,000 for improvements for the Waterloo Recreational Demonstration Area. In 1943, the state of Michigan leased the Waterloo Recreation Demonstration Area from the NPS under the conditions that it must remain a public park for recreation and conservation purposes.

Several funding sources were used for acquisition of land in Waterloo Recreation Area. An abbreviated version of these funding sources is listed below.

Former National Park Service Land leased to the State of Michigan

Per Public Law 594, 77th Congress 2nd session, titled "An Act to Authorize the Disposition of Recreational Demonstration Projects," the National Park Service leased land within the Waterloo Recreation Area to the Michigan DNR. The conditions of the lease agreement focus on the responsibilities of the DNR in protecting, maintaining, and operating the Recreation Area.

Michigan Natural Resource Trust Fund (MNRTF)

The MNRTF has provided financial assistance to protect natural resources and open space, purchase lands for outdoor recreation, and acquire land for its environmental importance or scenic beauty. Development projects have a minimum grant amount of $15,000 and a maximum of $500,000. There is neither a minimum nor a maximum amount on land acquisition grants.

Pittman-Robertson

In the late 1950's the state acquired over 260 acres of land in the north section of the Portage Marsh area (Reilly Property Purchase), using the Pittman-Robertson Fund. Because this funding source is specifically dedicated to game and habitat restoration, the Parks and Recreation Division (PRD) and Wildlife Division co-manage this property. These shared responsibilities are outlined in a memorandum of understanding between the Parks and Recreation Division and the Wildlife Division.

Special Legislation

Public Act 27, 1944, appropriated $5,000,000 for acquisition of land for recreation facilities. $1,500,000 was dedicated to purchasing lands in southeastern Michigan.

Public Act 50, 1944, appropriated $632,500 for the purposes of purchasing land, construction of state parks, and repairing/remodeling the State Capitol and office buildings. Of the $632,500, $450,000 went to the Department of Conservation.

State Game Fund

Revenue from this fund is raised through a $1.50 tax on deer hunting licenses.

Other funding sources available for future land acquisition include:

- Dingell Johnson – modeled after the Pittman-Robertson Act, this program focuses on the management, conservation and restoration of fishery resources.
- Game and Fish Fund – provides revenues for the operation of the Fish, Wildlife, and Law Enforcement programs.

3.0 Management Zones

With guidance of the Planning Team and input from the park's stakeholders and the public, the "Purpose and Significance" statements were formulated for Waterloo Recreation Area. This established an identity for Waterloo Recreation Area as a place to be valued for its unique natural features, access to numerous lakes, multi-use recreational trails, and opportunity for natural resources education.

This is Phase I of the General Management Plan for Waterloo Recreation Area to determine management zones for the parkland. Management zones describe a variety of activities that **may be** appropriate within that zone. Identifying specific activities that **will occur** is a function of Phase 2 general management planning, and not a component of this phase.

The Management Zone Plan, was developed in keeping with the park's unique Identity. Similar to the Purpose and Significance statements, the Management Zone Plan was also drafted with Planning Team, stakeholder and public support. The Management Zone Plan seeks to preserve and protect the park's natural resources, while creating opportunities for recreation, education and interpretation. To achieve this, the 21,000-acre park was divided into the following zones:

- Primitive Zone comprises 9,602 acres (47.7%) and reflects a desired condition that emphasizes the natural resources. Land is managed to only allow dispersed and low frequency use for low impact recreational purposes. This zone preserves and protects the unique exemplary natural communities found in this park.

- Backcountry Zone comprises 8,773 acres (43.6%) and emphasizes resource quality over recreation, but allows for modification of the landscape to allow for moderate levels of active recreation uses. Much of Waterloo Recreation Area's extensive trail system is located in this management zone.

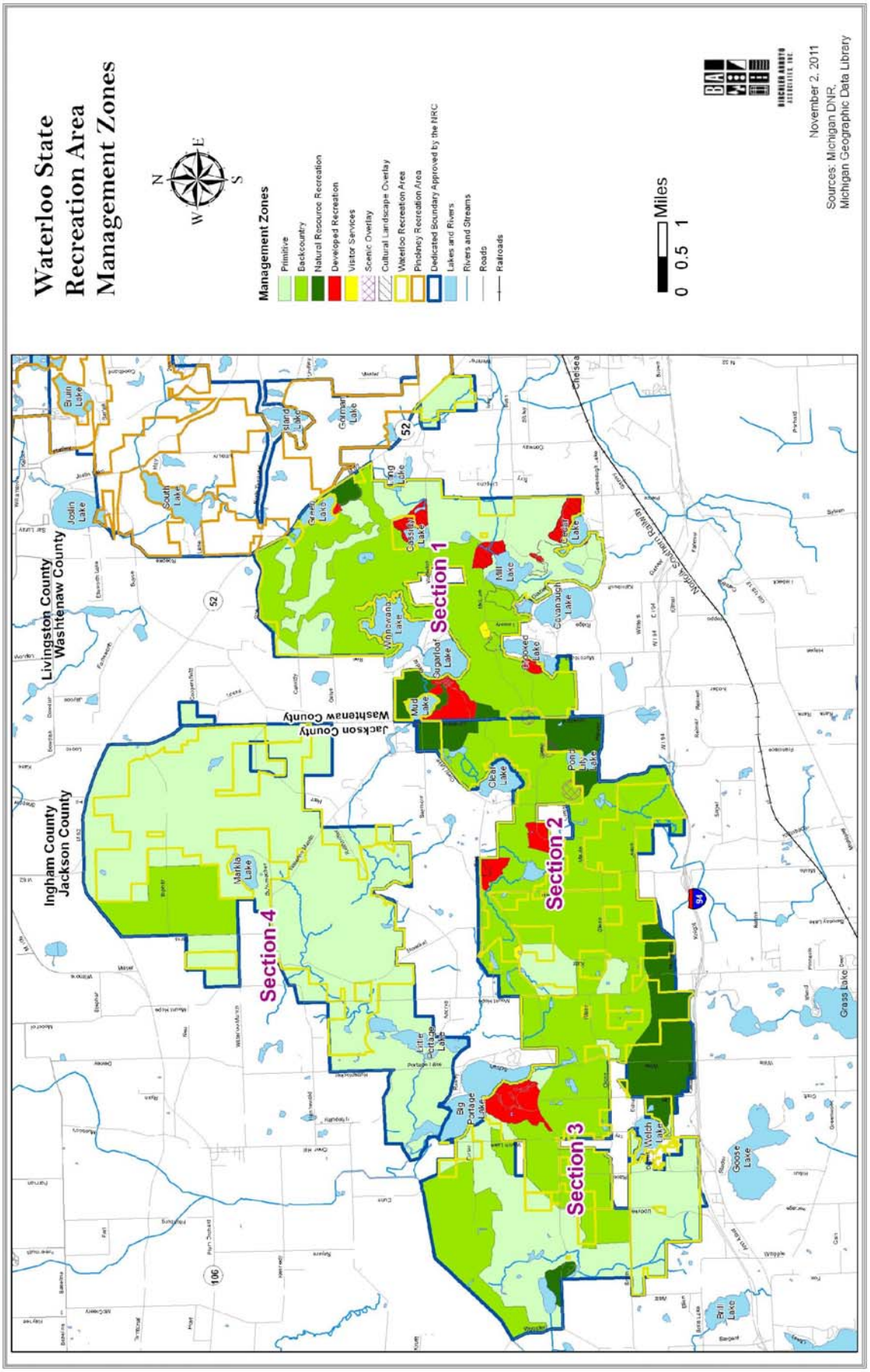
- Natural Resource Recreation Zone comprises 795 acres (3.9%) and permits active recreation with medium to high density of use conducted in natural areas. There is still an emphasis on resource quality over recreation, but in this zone, higher levels of use are allowed. More intensively used trail corridors will also be found in this zone.

- Developed Recreation Zone comprises 924 acres (4.6%) and allows active recreation with high density of use conducted in areas not designated for natural resource significance. In this zone, recreation dominates with natural resource attributes enhanced as possible. The campgrounds, boat launches, picnic areas, and day-use areas will be found within the Developed Recreation zone.

- Visitor Services Zone comprises 31 acres (0.15%) and encompasses the developed areas required for program administration and operations. This zone will include the existing park headquarters, maintenance facilities and all related land required to conduct the business of running a state recreation area.

- Scenic Overlay Zone comprises 78 acres (0.39%)

- Cultural Landscape Overlay Zone comprises 293.7 acres (1.5%) and addresses the overall setting in which is found not only historic structures, but also non-structural evidence of the traditions, beliefs, practices, lifeways, arts, crafts and social institutions of any community.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Lakes and Rivers
Rivers and Streams
Roads
Railroads
Miles
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Michigan Geographic Data Library
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Ingham County
Jackson County
Jackson County
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Section 4
Joslin Lake
South Lake
Gerald Lake
Gorman Lake
Long Lake
Cassidy Lake
Winnewana Lake
Sugarloat Lake
Mud Lake
Mill Lake
Covanaugh Lake
Crooked Lake
Clear Lake
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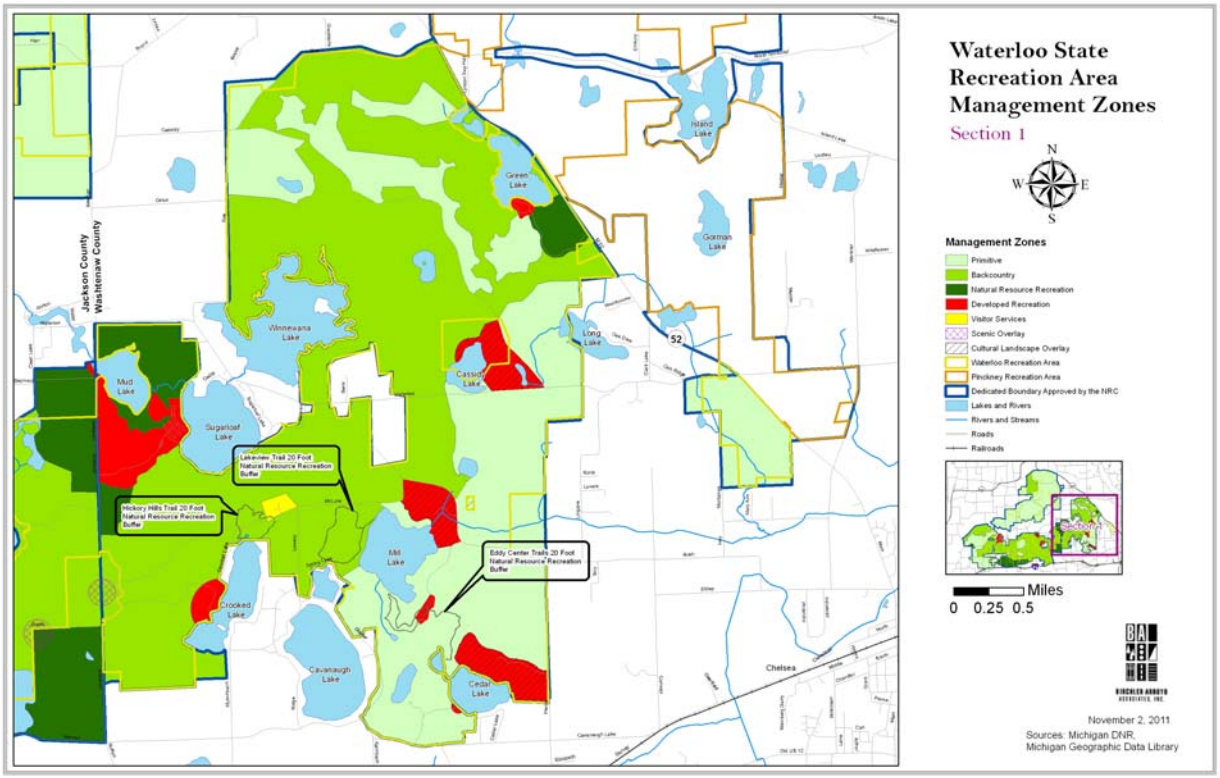
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Gorman Lake
Winnewana Lake
Long Lake
Cassidy Lake
Mud Lake
Sugarloaf Lake
Lakeview Trail 20 Foot Natural Resource Recreation Buffer
Hickory Hills Trail 20 Foot Natural Resource Recreation Buffer
Mill Lake
Eddy Center Trails 20 Foot Natural Resource Recreation Buffer
Crooked Lake
Cavanaugh Lake
Cedar Lake
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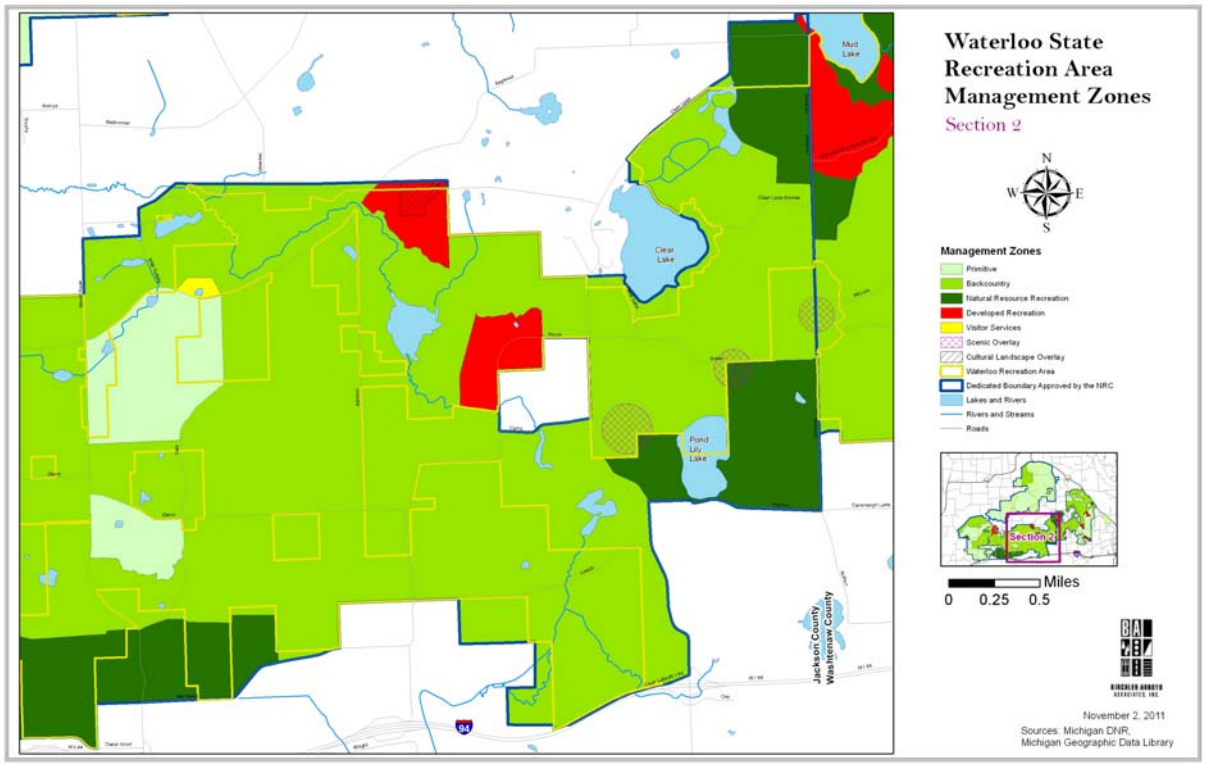
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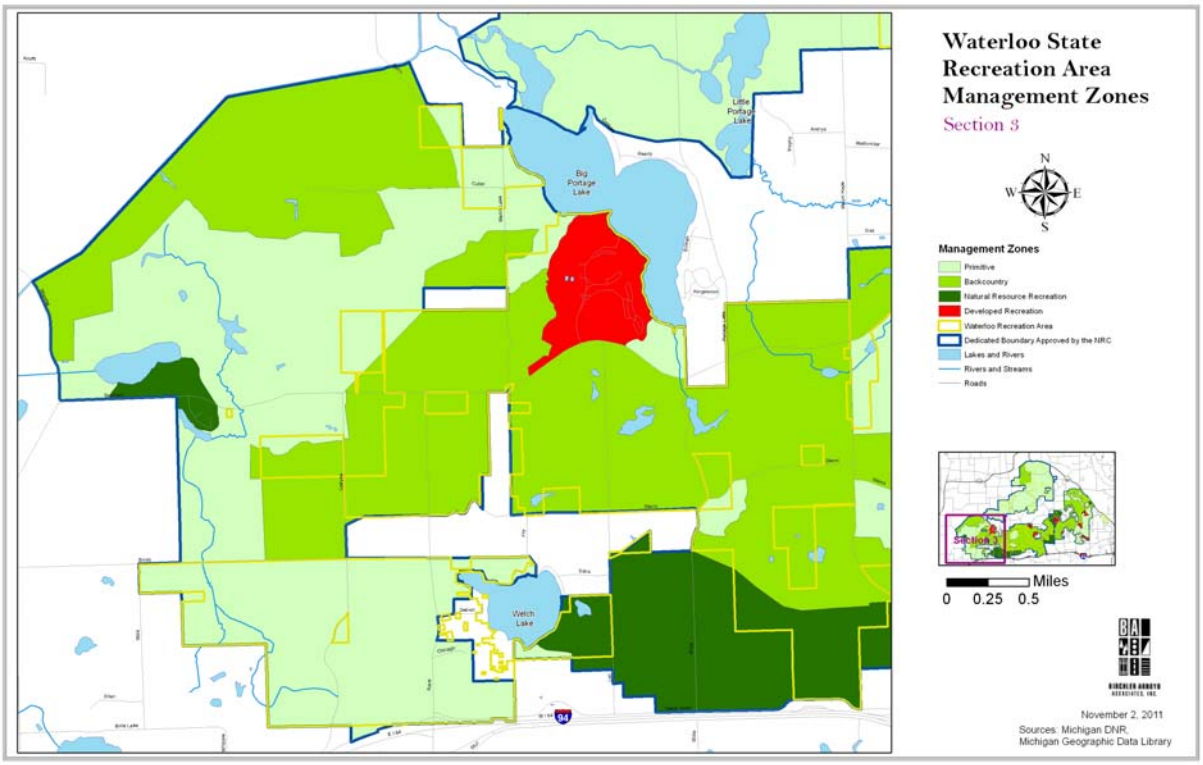
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Welch Lake
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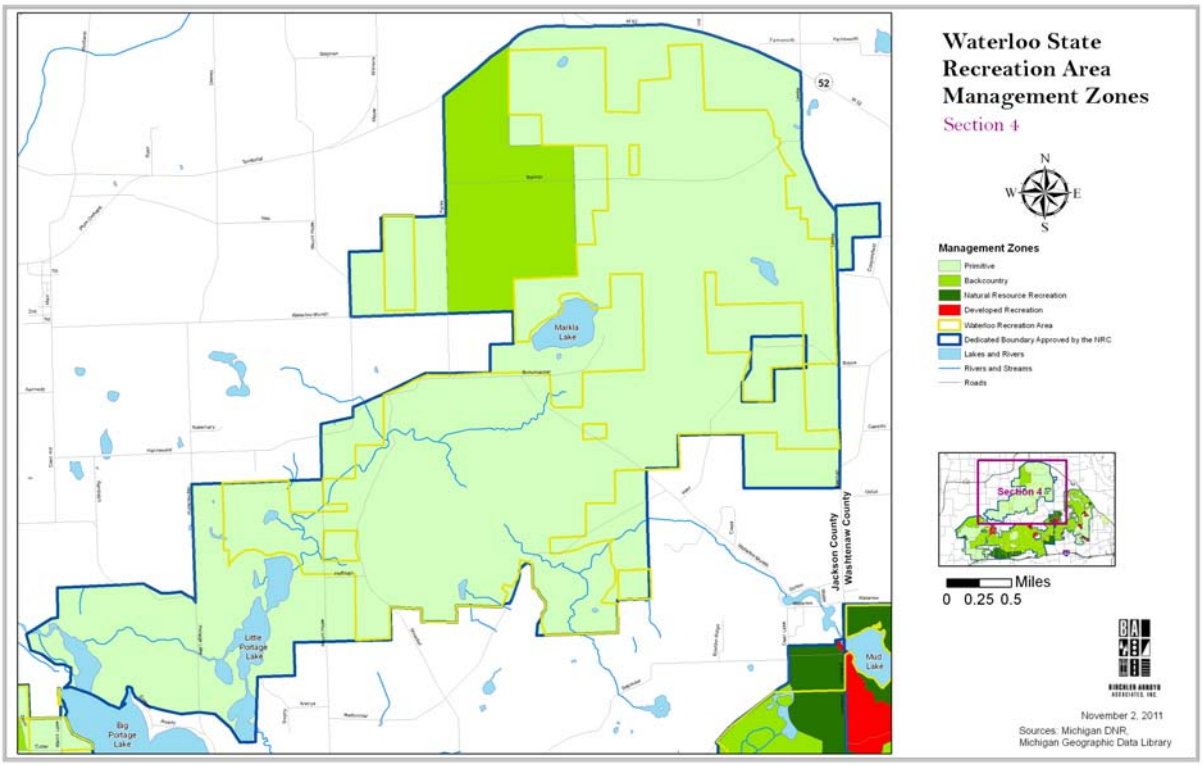
Waterloo State
Recreation Area
Management Zones
Section 4
N
W
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S
Management Zones
Primitive
Backcountry
Natural Resource Recreation
Developed Recreation
Waterloo Recreation Area
Dedicated Boundary Approved by the NRC
Lakes and Rivers
Rivers and Streams
Roads
Section 4
Miles
0 0.25 0.5
November 2, 2011
Sources: Michigan DNR,
Michigan Geographic Data Library
52
Markla Lake
Little Portage Lake
Big Portage Lake
Mud Lake
Jackson County
Washtenaw County

3.1 Primitive Zone

Approximately 9,602 acres (47.7%) of Waterloo Recreation Area will be designated Primitive. This zone preserves and protects the unique exemplary natural communities found in this park. Only foot traffic would be allowed in this zone to ensure that the natural features are not damaged or compromised by recreation.

A. Natural Resources. This zone will reflect natural processes, with vegetative management only allowed to restore and maintain natural ecological structure and processes (such as removing invasive species), to address hazard trees, and to manage pests and disease. The management zone plan promotes the on-going maintenance and enhancement of these natural resources to ensure their success in the long-term. Native species and natural processes would take precedence over visitor accommodation.

B. Historic/Cultural Resources. There are several historic structures or resources in this zone including historic dam locations, farmsteads, and cemeteries.

C. Recreation Opportunities. With the focus of this zone being preservation, protection and enhancement of the natural communities present within the zone, recreational opportunities are limited to low-intensity uses. Any uses must be dispersed, low intensity, off-trail or trail, self-reliant, outdoor activities. Activities that could occur in this zone are hiking, back-packing, hunting/trapping/fishing, primitive camping (designated sites), cross-country skiing, nature observation.

D. Education Opportunities. The ecological significance of the resources in the park presents a tremendous educational opportunity. Information can be relayed through the use of kiosks at trailheads and interpretive signage along trails and other appropriate locations.

E. Visitor Experience. Visitor experience would reflect a high degree of natural feel: a significant sense of solitude, and a lack of man-made improvements. Overall, there would be low interaction with other visitors.

F. Management Focus. Management would focus on maintaining the low-impact character of the zone, with emphasis on natural resource quality. Routine maintenance would be provided. Care would be taken to eliminate any detrimental impacts such as incursion of invasive species. Vegetation will be protected from human predation.

G. Development. The focus is to maintain as little evidence of human activity as possible. Trail improvements, which can include boardwalks and/or overlooks, will be considered.

3.2 Backcountry Zone

Approximately 8,773 acres (43.6%) of Waterloo Recreation Area will be designated Backcountry Zone. This zone allows for modification of the landscape to allow for moderate levels of active recreation uses.

A. Natural Resources. This zone will reflect natural processes, with vegetative management only allowed to restore and maintain natural ecological structure and processes (such as removing invasive species), to address hazard trees, and to manage pests and disease. Within the Backcountry Zone, natural resources may be modified slightly to support visitor use, but the tolerance for natural resource impacts is low.

B. Historic/Cultural Resources. There are several historic structures or resources in this zone including historic dam locations, farmsteads, and cemeteries.

C. Recreational Opportunities. Moderate levels of recreation are allowed in the Backcountry Zone, provided the activities are compatible with the natural character. Non-motorized outdoor activities could be permitted, including hiking, backpacking, backcountry camping, canoeing, horseback riding, kayaking, mountain biking, nature observation, cross-country skiing, snowshoeing and hunting/trapping/fishing. Most of Waterloo Recreation Area's extensive trail system, which includes bridle, biking, and hiking trails, are found within the Backcountry Zone. Due to intensive use that periodically takes place on the Lakeview and Hickory Hill Trails and sections of the Oakwoods Trail and Bog Trail that lead away from the Eddy Center, these trails are zoned Natural Resource Recreation.

D. Education Opportunities. The ecological significance of the resources in the park presents a tremendous educational opportunity. Information can be relayed through the use of kiosks at trailheads and interpretive signage along trails and other appropriate locations. The Michigan State Park Explorer Program (also known as the Outdoor Explorer Program) offers campers and day visitors the opportunity to learn about a wide range of topics including forests, insects, and pond studies.

E. Visitor Experience. A moderate level of visitor encounters can be accommodated in the Backcountry Zone. Visitors will engage in self-reliant, non-motorized outdoor activities that may require a fairly high time commitment. Low noise tolerance and low interaction with others can be expected.

F. Management Focus. Management will focus on maintaining the low-impact character of the zone, with emphasis on natural resource quality. Routine maintenance, including maintenance for trails or access routes, will be provided. Care will be taken to eliminate any detrimental impacts such as incursion of invasive species.

G. Development. A low level of development is allowed to support visitor access to activities offered in the zone. Development would be unobtrusive and blend in with the natural environment.

3.3 Natural Resource Recreation Zone

Approximately 795 acres, or 3.9%, of the land comprising Waterloo Recreation Area is designated Natural Resource Recreation Zone. The zone allows for active recreation with medium to high density of use conducted in natural areas.

A. Natural Resources. This zone will reflect natural processes, with vegetative management only allowed to restore and maintain natural ecological structure and processes (such as removing of invasive species), to address hazard trees, and to manage pests and disease. Vegetation may also be managed to facilitate recreational use and maintaining an aesthetically appealing landscape.

B. Historic/Cultural Resources. Cultural resources preserved, rehabilitated, removed or allowed to waste away. Historic structures could be adaptively used for operational uses or educational purposes.

C. Recreation Opportunities. In this zone, visitors engage in *outdoor activities* in diverse land and water natural settings (ie. hiking, backpacking, back-country and rustic camping, bicycling, canoeing, kayaking, equestrian use, nature observation, cross-country skiing, and snowshoeing). Hunting/trapping/fishing are permitted in designated areas. Snowmobiling is permitted on designated routes. Moderate to high levels of recreation compatible with natural character of the zone. Due to intensive use that periodically takes place on the the Lakeview and Hickory Hill Trails and sections of the Oakwoods Trail and Bog Trail that lead away from the Eddy Center, these trails are zoned Natural Resource Recreation.

D. Education Opportunities. Interpretive signage at trail heads, on the trail, and at overlooks.

E. Visitor Experience. Visitors engaged in outdoor activities in diverse land and water natural settings for recreation and education. Hunting/trapping/fishing permitted in designated areas. Snowmobiling permitted on designated routes. Variable time commitment. Variable challenge and adventure. Moderate noise tolerance. Moderate interaction with DNR staff. High visitor encounters accommodated.

F. Management Focus. Management focuses on maintaining the use of the zone appropriate to the PRD's mission. Public safety, protection of resources, and universal access are management priorities.

G. Development. A moderate level of development of facilities for support of visitor activities is permitted in this zone. Examples of development include walkways and parking, trails, benches, and picnic tables. Site hardening is allowed as necessary to facilitate activities and protect natural resources.

3.4 Developed Recreation Zone

Approximately 924 acres, (4.6%), of Waterloo Recreation Area is designated Developed Recreation. This zone allows active recreation with high density of use conducted in areas not designated for natural resource significance. This zone includes the Portage Lake day use area, Sugarloaf Lake day use area, and the Gerald E. Eddy Discovery Center.

A. Natural Resources. Vegetative management in this zone will address hazard trees, invasive species, and pests and disease, and will also be allowed for purposes of facilitating development and recreational use and maintaining an aesthetically appealing landscape. Natural resources are actively managed and modified to support visitor activities. Water quality is maintained or restored.

B. Historic/Cultural Resources. Resources in this zone could be preserved, adapted or rehabilitated. Non-utilized or non-stabilized structures are removed.

C. Recreational Opportunities. High levels of recreation in a highly structured environment are found in this zone. Visitors engage in recreation activities in diverse and modified land and water settings: hiking, modern and rustic camping, bicycling, boating, canoeing, kayaking, fishing, nature observation, cross-country skiing, snowshoeing, day-use beach, picnicking, and other day-use activities.

D. Education Opportunities. Interpretive signage and information could be provided at the campground, registration building, trailheads, and/or along trails and overlooks. Currently, the Gerald E. Eddy Discovery Center introduces visitors to the diverse natural habitats found within Waterloo Recreation Area. The center includes interactive exhibits, a geology room that promotes discovery-based learning, outdoor self-guided trails, and programs for school groups visiting the park.

E. Visitor Experience. A high level of visitor encounters can be accommodated. Activities for visitors to engage in could offer a variable time commitment, challenge and adventure. Moderate noise tolerance and moderate to high interaction with others can be expected.

F. Management Focus. Management focuses on maintaining the use of the zone appropriate to the PRD's mission. Public safety, protection of resources, and universal access are management priorities.

G. Development. A high level of development of facilities for support of visitor activities is permitted in this zone. Examples of development include restrooms, concrete/asphalt/gravel walkways and parking, fishing piers, trails, benches, picnic tables, rustic campsites, cabins and shelters for recreation and educational opportunities. Site hardening is allowed as necessary to facilitate activities, protect natural resources, and provide universal access.

3.5 Visitor Services Zone

This zone is 31 acres (0.15%), and encompasses the developed areas required for program administration and operations. It includes offices, contact stations, maintenance facilities and all related land required to conduct the business of running a state park. The Visitor Services zone in Waterloo Recreation Area includes the park headquarters.

A. Natural Resources. Natural resources are actively managed and modified to support administrative and support activities. Vegetative management is allowed (primarily tree removal for safety).

B. Historic/Cultural Resources. Resources in this zone could be preserved, adapted or rehabilitated to support administrative and support activities.

C. Recreational Opportunities. There are no recreational activities permitted in the Visitor Services zone.

D. Education Opportunities. Person to person contact at park headquarters for general information; informational kiosk may be available.

E. Visitor Experience. Business and information only. High noise tolerance and moderate to high interaction with others can be expected.

F. Management Focus. Management focuses on the business of running the park, appropriate facilities for staff, employee safety. Universal access will be provided to the offices.

G. Development. A high level of development of facilities for support of administrative activities is permitted in this zone. Examples of development include office space, meeting rooms, employee locker room, eating area, shop space, and storage space.

3.6 The Scenic Overlay Zone

Approximately 78 acres (0.39%), of Waterloo Recreation Area will be zoned Scenic Overlay Zone. This zone allows the uses in the underlying zone, but places a management priority on maintaining the scenic views.

A. Natural Resources. This zone will reflect natural processes, with vegetative management only allowed to restore and maintain natural ecological structure and processes (such as removing of invasive species), to address hazard trees, and to manage pests and disease. Vegetation may also be managed to enhance the viewscapes of the zone.

B. Historic / Cultural Resources. Cultural resources would be preserved, rehabilitated or removed. Historic structures could be adaptively used for operational uses or educational purposes.

C. Recreational Opportunities. Moderate levels of recreation would be allowed, compatible with the surrounding zone. Non-motorized activity only would be allowed in the trail and observation point, where provided.

D. Education Opportunities. Interpretive signage may be used at key viewing points, trailheads, overlooks or the parking area. There may be opportunities for off-site interpretation as well.

E. Visitor Experience. High encounters may be expected in Scenic Zones. Visitors would be engaged in sightseeing activities by hiking. A moderate time commitment, off-site interpretation and noise tolerance would be expected.

F. Management Focus. Management focuses on maintaining the quality of the viewscape. Public safety, and ensuring that other activities and/or development within the Scenic Zone are compatible with the overriding purpose of the view quality are other management concerns.

G. Development. Development will be appropriate with the underlying zone, which is mainly zoned Backcountry, to accommodate such things as interpretive activities and sightseeing.

3.7 Cultural Landscape Zone

Approximately 294 acres, 1.5%, of land comprising Waterloo Recreation Area is designated Cultural Landscape Zone. The zone addresses the overall setting in which is found historic structures as well as non-structural evidence of traditions, beliefs, practices, lifeways, arts, crafts and institutions of any community.

A. Natural Resources. This zone will reflect natural processes, with vegetative management focused to restore and maintain natural ecological structure and processes (such as removing of invasive species), to address hazard trees, and to manage pests and disease. Vegetation may also be managed to enhance education/interpretation uses which can include non-native species specific to the era and/or location, and maintaining an aesthetically appealing landscape that is sensitive to the historical resource and interpretation of the zone.

B. Historic/Cultural Resources. Includes historic buildings, structures, and other landscape characteristics and features, which represent the evolution of the cultural resource, temporal change, and the continuum of time. Waterloo Recreation Area's historic districts, including camping grounds at Mill Lake, Cedar Lake and Cassidy Lake, are located in this zone.

C. Recreation Opportunities. Visitors engaged in sightseeing, recreational, and educational activities in a cultural setting (ie. automobile, bicycle, walking, hiking tour), compatible with and sensitive to the setting.

D. Education Opportunities. Interpretive signage at trail heads, on the trail, overlooks and other points of interest. Off site interpretation as well.

E. Visitor Experience. Visitors engaged in sightseeing, recreational, and educational activities in a cultural setting (ie. automobile, bicycle, walking, hiking tour). Moderate time commitment. Moderate on-site interpretation, off-site interpretation, noise tolerance, and interaction with DNR staff.

F. Management Focus. The focus of this zone is to maintain the cultural character of the zone, and the underlying zone, which is mainly Developed Recreation.

G. Development. Non-historic development and activities that do not conflict with the cultural landscape are tolerated. Moderate level of development to support visitor access and use (ie. interpretive media, walks, trails, small picnic areas, and restrooms). Development compatible with the cultural landscape.

4.0 Future Plan Inserts

The following are items that will be added to this General Management Plan (GMP) as they are developed. The GMP serves as a guide for each subsequent plan.

10-Year Long Range Action Goals Plan (Plan to attain the GMP): Phase 2 of the Management Planning Process. Includes review and update of General Management Plan.

5-Year Implementation Plan (Specific actions to implement the Long Range Action Goals Plan): Phase 3 of the Management Planning Process. Includes review and update of GMP and Phase 2 Plan.

Annual Action Plan and Progress Report: Phase 4 of the Management Planning Process.

Operational/Management Resources: The following categories are established as a guide for the park manager to use to supplement this working document. Other categories can be added as needed.

- ❑ Annual Work Plan (This report ties in with Phase 4 – Annual Report of Management Planning)
- ❑ Stewardship Plan
- ❑ Staffing
- ❑ Budget
- ❑ Equipment
- ❑ Training
- ❑ Public Relations / Marketing / Outreach
- ❑ Programming (ie. special events, MCCC, volunteers, etc.)
- ❑ Public Health, Safety, and Welfare
- ❑ Water system
- ❑ Wastewater system
- ❑ Electrical system
- ❑ Law enforcement
- ❑ Emergency Access Plan
- ❑ Wildfire Management Plan
- ❑ CRS
- ❑ FOIA
- ❑ Raster Image Index
- ❑ Raster Images of historic park plans
- ❑ Park Infrastructure data

APPENDIX A
Supporting Analysis

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A.1 PARK LOCATION

Location & Surrounding Community

Waterloo Recreation Area is located in the northeast corner of Jackson County and the northwest corner of Washtenaw County. Its geographic coordinates approximate 42 °30" latitude and 84 °20" longitude. It spans six townships; Henrietta, Leoni, Waterloo, Grass Lake, Lyndon, and Sylvan.

The Recreation Area has an irregular boundary, but largely is confined on the north and east by M-52 and on the south by I-94. The western boundary varies, but is between Mt. Hope Road and M106.

Waterloo Recreation Area can be accessed easily coming from the east and west by Interstate 94. There are a variety of exits on I-94 allowing access to Waterloo: exits 147 (Race Road), 150 (Mount Hope), 153 (Cedar Lake), 156 (Kalmbach Road), 157 (Pierce Road), and 159 (M-52). From the north, M-52 is a convenient access road.

Waterloo Recreation Area is adjacent to Pinckney Recreation Area on its northeast border. M-52 is the dividing line between the two Recreation Areas.

A.2 DEMOGRAPHICS

The US Census Bureau estimated the 2009 population of Jackson County to be 158,828, a 0.9% increase since 2000. The population density in Jackson County is approximately 226 people per square mile. Adjacent Washtenaw County is estimated to have a population of 347,563. The population density in Washtenaw County is approximately 490 people per square mile. Both county populations exceed the state average of 175 people per square mile by a large margin, particularly Washtenaw County which reflects the growth surrounding Ann Arbor.

2009 U.S. Census estimates for Jackson County

People QuickFacts	Jackson County	Michigan
Population, 2009 estimate	159,828	9,969,727
Population, percent change, April 1, 2000 to July 1, 2009	0.9%	0.3%
Population estimates base (April 1) 2000	158,422	9,938,492
Persons under 5 years old, percent, 2009	6.2%	6.2%
Persons under 18 years old, percent, 2009	23.0%	23.6%
Persons 65 years old and over, percent, 2009	13.7%	13.4%
Female persons, percent, 2009	49.0%	50.8%
White persons, percent, 2009 (a)	89.0%	81.2%
Black persons, percent, 2009 (a)	7.8%	14.2%
American Indian and Alaska Native persons, percent, 2009 (a)	0.5%	0.6%
Asian persons, percent, 2009 (a)	0.8%	2.4%
Native Hawaiian and Other Pacific Islander, percent, 2009 (a)	0.1%	Z
Persons reporting two or more races, percent, 2009	1.9%	1.6%
Persons of Hispanic or Latino origin, percent, 2009 (b)	2.9%	4.2%
White persons not Hispanic, percent, 2009	86.5%	77.4%
Living in same house in 1995 and 2000, pct 5 yrs old & over	59.0%	57.3%
Foreign born persons, percent, 2000	1.7%	5.3%
Language other than English spoken at home, pct age 5+, 2000	4.4%	8.4%
High school graduates, percent of persons age 25+, 2000	84.2%	83.4%
Bachelor's degree or higher, pct of persons age 25+, 2000	16.3%	21.8%
Persons with a disability, age 5+, 2000	27,464	1,711,231
Mean travel time to work (minutes), workers age 16+, 2000	23.1	24.1
Housing units, 2009	68,271	4,541,680
Homeownership rate, 2000	76.5%	73.8%
Housing units in multi-unit structures, percent, 2000	15.4%	18.8%
Median value of owner-occupied housing units, 2000	$96,900	$115,600
Households, 2000	58,168	3,785,661
Persons per household, 2000	2.55	2.56
Median household income, 2008	$47,424	$48,606
Per capita money income, 1999	$20,171	$22,168
Persons below poverty level, percent, 2008	13.2	14.4

Business QuickFacts	Jackson County	Michigan
Private nonfarm establishments, 2008	3,200	229,310[1]
Private nonfarm employment, 2008	49,143	3,636,241[1]
Private nonfarm employment, percent change 2000-2008	-10.2%	-10.7%[1]
Nonemployer establishments, 2008	8,665	640,719
Total number of firms, 2002	10,975	735,531
Black-owned firms, percent, 2002	1.9%	6.0%
American Indian and Alaska Native owned firms, percent, 2002	F	0.7%
Asian-owned firms, percent, 2002	F	2.1%
Native Hawaiian and Other Pacific Islander owned firms, percent,	F	0.0%

2002		
Hispanic-owned firms, percent, 2002	1.0%	1.3%
Women-owned firms, percent, 2002	S	29.6%
Manufacturers shipments, 2002 ($1000)	2,541,850	221,433,262
Wholesale trade sales, 2002 ($1000)	749,590	165,958,945
Retail sales, 2002 ($1000)	1,548,612	109,350,139
Retail sales per capita, 2002	$9,606	$10,889
Accommodation and foodservices sales, 2002 ($1000)	158,955	12,248,269
Building permits, 2009	127	6,884[1]
Federal spending, 2008	1,060,543	82,933,158[1]

Geography QuickFacts	**Jackson County**	**Michigan**
Land area, 2000 (square miles)	706.60	56,803.82
Persons per square mile, 2000	224.1	175.0
FIPS Code	075	26

2009 U.S. Census estimates for Washtenaw County

People QuickFacts	**Washtenaw County**	**Michigan**
Population, 2009 estimate	347,563	9,969,727
Population, percent change, April 1, 2000 to July 1, 2009	7.7%	0.3%
Population estimates base (April 1) 2000	322,770	9,938,492
Persons under 5 years old, percent, 2009	5.7%	6.2%
Persons under 18 years old, percent, 2009	20.7%	23.6%
Persons 65 years old and over, percent, 2009	9.8%	13.4%
Female persons, percent, 2009	50.2%	50.8%
White persons, percent, 2009 (a)	77.1%	81.2%
Black persons, percent, 2009 (a)	12.4%	14.2%
American Indian and Alaska Native persons, percent, 2009 (a)	0.4%	0.6%
Asian persons, percent, 2009 (a)	7.8%	2.4%
Native Hawaiian and Other Pacific Islander, percent, 2009 (a)	0.1%	Z
Persons reporting two or more races, percent, 2009	2.2%	1.6%
Persons of Hispanic or Latino origin, percent, 2009 (b)	3.5%	4.2%
White persons not Hispanic, percent, 2009	74.1%	77.4%
Living in same house in 1995 and 2000, pct 5 yrs old & over	43.0%	57.3%
Foreign born persons, percent, 2000	10.3%	5.3%
Language other than English spoken at home, pct age 5+, 2000	13.2%	8.4%
High school graduates, percent of persons age 25+, 2000	91.5%	83.4%
Bachelor's degree or higher, pct of persons age 25+, 2000	48.1%	21.8%
Persons with a disability, age 5+, 2000	39,902	1,711,231
Mean travel time to work (minutes), workers age 16+, 2000	22.2	24.1
Housing units, 2009	147,576	4,541,680
Homeownership rate, 2000	59.7%	73.8%
Housing units in multi-unit structures, percent, 2000	34.7%	18.8%
Median value of owner-occupied housing units, 2000	$174,300	$115,600
Households, 2000	125,327	3,785,661
Persons per household, 2000	2.41	2.56
Median household income, 2008	$59,126	$48,606
Per capita money income, 1999	$27,173	$22,168
Persons below poverty level, percent, 2008	13.7%	14.4%

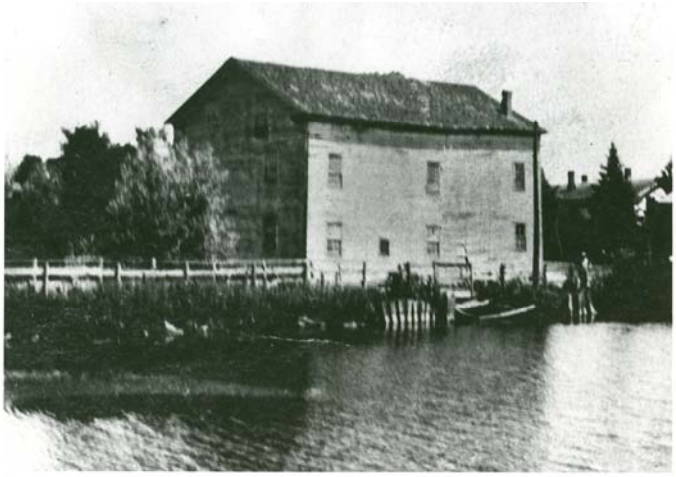
Business QuickFacts	Washtenaw County	Michigan
Private nonfarm establishments, 2008	8,132	229,310[1]
Private nonfarm employment, 2008	140,524	3,636,241[1]
Private nonfarm employment, percent change 2000-2008	-10.8%	-10.7%[1]
Nonemployer establishments, 2008	25,667	640,719
Total number of firms, 2002	28,184	735,531
Black-owned firms, percent, 2002	5.0%	6.0%
American Indian and Alaska Native owned firms, percent, 2002	0.4%	0.7%
Asian-owned firms, percent, 2002	4.2%	2.1%
Native Hawaiian and Other Pacific Islander owned firms, percent, 2002	F	0.0%
Hispanic-owned firms, percent, 2002	1.5%	1.3%
Women-owned firms, percent, 2002	28.0%	29.6%
Manufacturers shipments, 2002 ($1000)	7,622,597	221,433,262
Wholesale trade sales, 2002 ($1000)	3,024,340	165,958,945
Retail sales, 2002 ($1000)	4,071,538	109,350,139
Retail sales per capita, 2002	$12,247	$10,889
Accommodation and foodservices sales, 2002 ($1000)	511,840	12,248,269
Building permits, 2009	253	6,884[1]
Federal spending, 2008	2,996,279	82,933,158[1]

Geography QuickFacts	Washtenaw County	Michigan
Land area, 2000 (square miles)	709.94	56,803.82
Persons per square mile, 2000	454.8	175.0
FIPS Code	161	26

A.3 GENERAL HISTORY OF WATERLOO RECREATION AREA

The Sauk Tribe, a tribe of Native Americans, was the first known inhabitants of the area known today as Waterloo Recreation Area. The modern history of Waterloo Recreation Area can be traced back to the 19th century. The first settler, Richard Shaw, arrived in 1834 and established residence on 40 acres of land granted to him by the Federal Government. In 1836 two more settlers were granted acreage. These three homesteads would later become the town of Trist. In 1837 another settler, Ralph Updike began buying land and water rights on Trist Creek.

The Trist Mill, Built by Ralph Updike in 1844



By 1844, Updike had initiated the construction of a mill, which spurred development for the rest of Trist. Shortly after the Mill was completed a blacksmith shop, two general stores, and a buggy shop were erected. Trist was mainly inhabited by German farmers, drawn to the area by the dependable water supply and abundant land. Children attended a school on the corner of Mt. Hope and Seymour Road. In 1924, the Trist Mill closed for good, an indication that life for the town of Trist was nearing its end. A concise record of the history, inhabitants, and building structures in the town of Trist can be found in "Historical Background, Townsite of Trist. Waterloo Recreation Area, November 1967." located in the Division Office.

In 1933, due to a large number of failed farms, the Federal Resettlement Administration began to purchase these tracts of failed farmland for recreational use. By 1936, 11,998 acres had been purchased and turned over to the National Park Service. Early on, Civilian Conservation Corps (CCC) forces supplied a large amount of labor in the park, followed by Works Progress Administration (WPA) workers.

In 1943 the National Parks Service leased indefinitely the 12,000 acres known as Waterloo Recreational Demonstration Area to the state of Michigan, when it was given its present day name, Waterloo Recreation Area.

Today, Waterloo Recreation Area is the largest park in the Lower Peninsula consisting of more than 20,000 acres. The Recreation Area now has two modern campgrounds, a rustic campground, and an equestrian campground. Also swimming beaches, several picnic sites, eight boat launches, 12 miles of interpretive trails, 47 miles of hiking trails, three rustic cabins, numerous equestrian trails, and the Gerald E. Eddy Discovery Center

In the early years of the park, the National Parks Service developed the Portage Lake day use area and several fish rearing ponds and duck ponds. Extensive vegetation was planted as well, for the purpose of reforestation and wildlife food/shelter. Sylvan Pond was created by the WPA using a dam, in order to create a trout pond. During the National Park Service's administration three outdoor centers were completed: Mill Lake, Cassidy Lake, and Cedar Lake. These camps were established to provide underprivileged youth with a social outdoor experience.

Mill Lake, the first Outdoor Center to be built, was completed in 1936. The original occupants of Mill Lake were a group of boys from the Detroit Public School System. Mill Lake Outdoor Center remains the most intact example of a WPA Outdoor Center in the Michigan State Park System, with 15 of the 16 original buildings remaining. The Michigan United Conservation Club (MUCC) operated the camp for many years, but after its use was discontinued, it has significantly degraded. Renovations to the site have kept historical significance in mind when routine maintenance is needed.

Construction of the second group camp, Cassidy Lake Group Camp, began in September 1936 in cooperation with the National Youth Administration as a year-round vocational school for underprivileged inner-city boys. Cassidy Lake was rushed to temporary completion for the first group of campers by 1937. Each month the boys attending Cassidy Lake were required to work 70 hours and earned a wage of $29.96.

In 1942 the vocational school was abandoned, and the Michigan Department of Corrections took over the facility for the housing of inmates. The Camp is still used by the Department of Corrections today as a work camp. This is the first example in Michigan of many such camps administered by the Department of Corrections in Michigan State Parks.

A third group camp, Cedar Lake Outdoor Center, was completed in 1940. This outdoor center consisted of three camp units around a central cluster of administration buildings. Cedar Lake has not maintained as much structural integrity as Mill Lake, although it is still valuable historically. Units B and C were altered when some original buildings were removed and new buildings were erected. Unit A and the administrative area retain their historical integrity. The Michigan United Conservation Club (MUCC) now leases and maintains Cedar Lake.

A.4 LAND OWNERSHIP ISSUES

These funding sources have been used for acquisition of land in Waterloo Recreation Area:

Former National Park Service Land leased to the State of Michigan

Public Law 594, 77th congress 2nd session, titled "An Act to Authorize the Disposition of Recreational Demonstration Projects" was passed June 6, 1942. The relevant part of this law states that the Secretary of the Interior is authorized to "convey or lease to the States any or all of the recreational demonstration projects, lands, improvements and equipment…"

The conditions in the lease between the National Parks Service and the Michigan Department of Natural Resources are:

1. "The lease provides for the immediate transfer of control of approximately 8,500 acres of the Waterloo Area designated as units III, IV, and V. Units I and II, involving approximately 3,800 acres, are to be transferred to the State and administered as State Parks at such time as the money is available…"
2. "The lease is perpetual and remains in force and effect until terminated by either party upon thirty days written notice to the other."
3. "The area is to be used exclusively for public park, recreational, and conservation purposes."
4. "The state will endeavor to acquire when practicable, approximately 5,000 acres in Units III, IV, and V and approximately 1,000 acres in Units I and II."
5. "The state may permit controlled hunting on the property, but agrees to maintain a flexible system of refugees on Units III and IV to protect sandhill cranes and other waterfowl and agrees to restore marsh conditions on these units where practicable."
6. "The United States Government is relieved from maintenance and operation of the property and from any loss, expense or liability arising during the term of this lease."
7. "The State also agrees to accept by deed the responsibility for the protection, maintenance, and operation of Yankee Springs Area as soon as funds are available."
8. "Our eventual acceptance of responsibility for Units I and II of Waterloo Area involves: (1) Operation of these units as state parks, (2) continuation of present permit system and rental rates for group camps, until such time as the State accepts control of Yankee Springs Area, and (3) continuation of a permit system with the NYA for rental of the Cassidy Lake group camp facilities as long as needed by the NYA in the war industries training program."

Michigan Natural Resource Trust Fund (MNRTF)

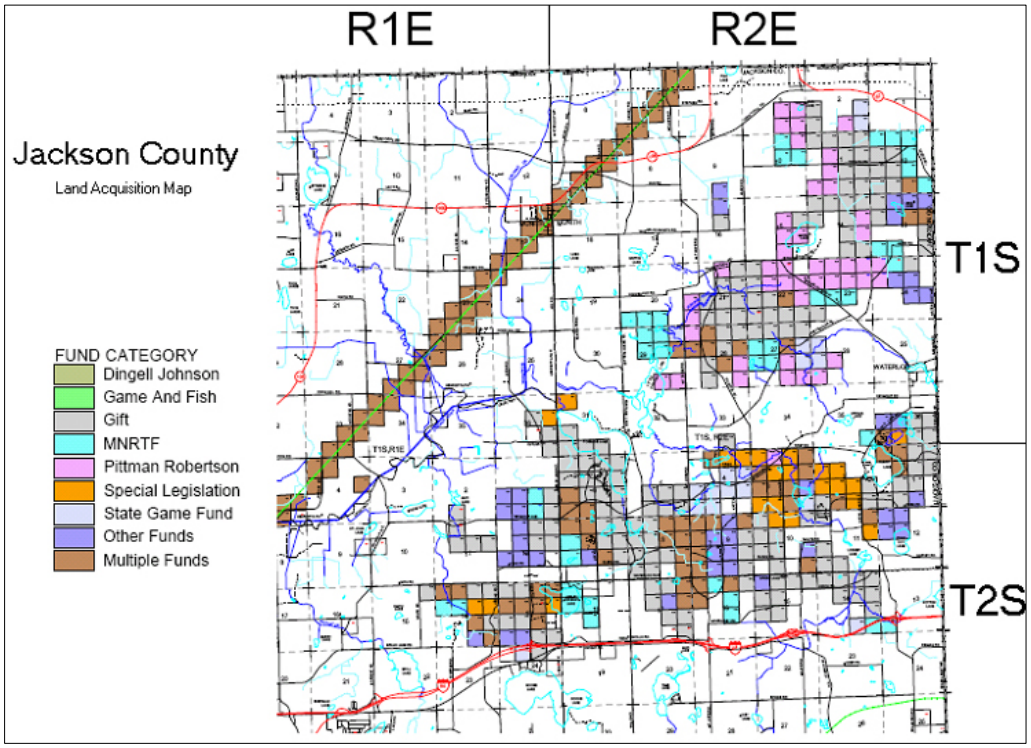
The MNRTF has provided financial assistance to protect natural resources and open space, purchase lands for outdoor recreation, and acquire land for its environmental importance or scenic beauty. The Fund's Board of Trustees and the Grants Administration Division of the DNR administer the program. Only state and local

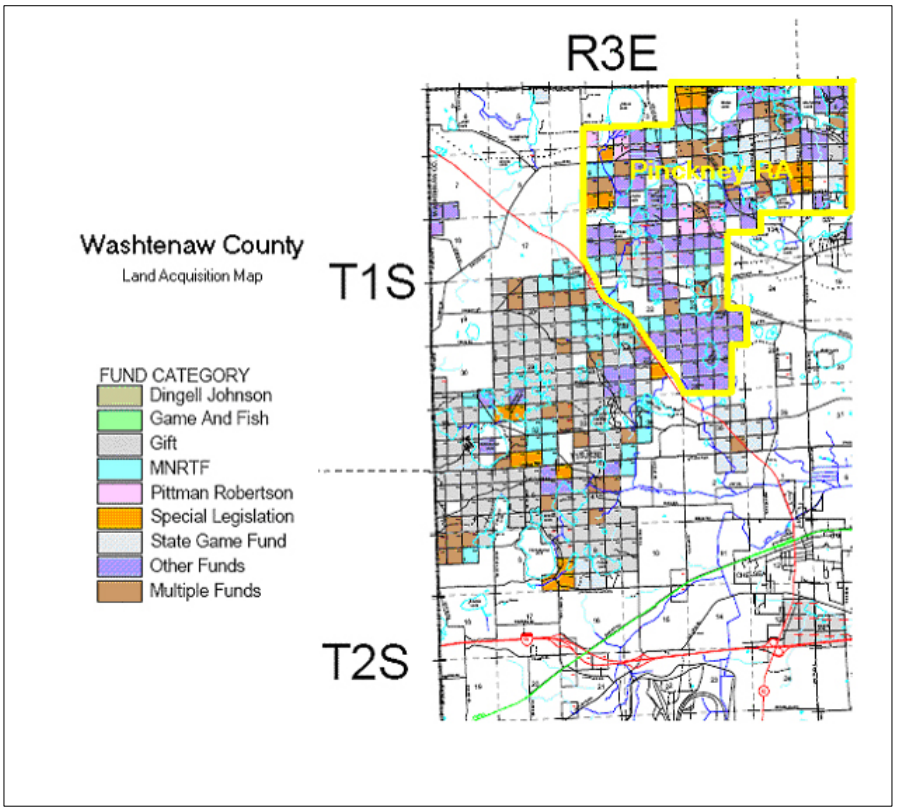
governments may apply to the fund to acquire property. Annual revenue from oil, gas, and mineral leasing supports the fund.

There are eleven evaluation criteria for grant funding: the protection and use of significant natural resources, use of inland waters, population served, economic benefits, hunting, fishing and other wildlife-related values, need for proposal, capability of applicant, site and project quality, special initiatives of the Fund board, financial need of the applicant, and local match contribution. Development projects have a minimum grant amount of $15,000 and a maximum of $500,000. There is neither a minimum nor a maximum amount on land acquisition grants. Since 1976, the Fund has purchased more than 135,000 acres of land in Michigan.

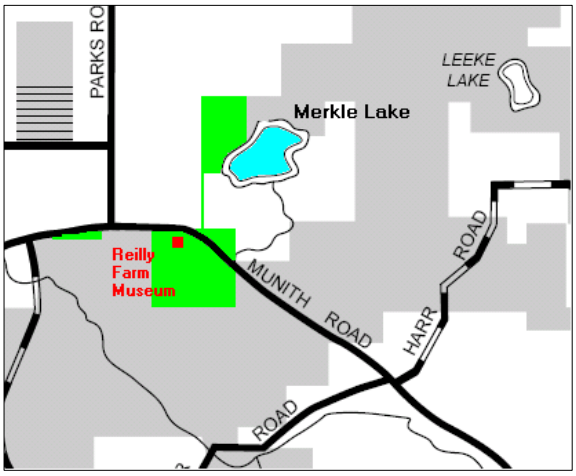
Pittman-Robertson

The Federal Aid in Wildlife Restoration Act, popularly known as the Pittman-Robertson Act, was approved by Congress on September 2, 1937. The purpose of this Act was to provide funding for the selection, restoration, rehabilitation and improvement of wildlife habitat and wildlife management research. Funds are derived from an 11 percent Federal excise tax on sporting arms, ammunition, and archery equipment, and a 10 percent tax on handguns. Each state's apportionment of funds is determined by a formula that considers the total area of the state and the number of licensed hunters in the state.





In the late 1950's the state acquired over 260 acres of land in the north section of the Portage Marsh area. These three tracts are known as the Reilly Property Purchase. The northernmost tract is 76.79 acres with 1,185 feet of frontage on Merkle Lake. This land also includes a right-of-way from Munith Road. The second parcel of land has 160 acres and lies on the north and south side of Munith Road. This parcel is important because it includes the original residence of the Reilly family. The three acres occupied by the Reilly farmhouse are now leased by the Waterloo Area Historical Society. The old farmhouse has been restored and functions as a historical museum today. A third parcel of 25 acres lies on the south edge of Munith Road and is west of tract two. The land totals 261.79 acres.



The Reilly property purchase is important because it demonstrates a land administration/ownership issue that is still a concern today. Resources used to purchase the Reilly property came from the Pittman-Robertson Fund, a source of funding specifically dedicated to game and habitat restoration. The Parks and Recreation Division (PRD) purchased the Reilly property using this fund, which means the Wildlife Division has a stake in the management of this property. PRD responsibilities encompass the overall administration of the

property: posting, fencing, road maintenance, enforcement of park rules, and trespass issues. However, the Wildlife Division is responsible for all game management including planting, cutting, and burning. These shared responsibilities are outlined in a memorandum of understanding between The Parks and Recreation Division and the Wildlife Division. The Reilly Purchase is not the only land that has been purchased with Federal funds. Throughout Waterloo RA other lands have been purchased using this source.

Below is a portion of the agreement between PRD and Wildlife concerning the management of Pittman – Robertson Lands.

> This agreement is an update revision of the original agreement document dated on August 26, 1957, between Parks and Recreation Division and Game Division and recognizes certain changes which have occurred.
> Since the Parks Division is responsible for the administration of the southern Michigan recreation areas, and since the Wildlife Division is responsible for the planning and supervision of wildlife interests on these state lands, this agreement will define the responsibilities of each.
>
> PARKS DIVISION AGREES:
> 1. To furnish up to date maps designating areas of intensive use or other dedicated uses which are not compatible with a wildlife management program.
> 2. Review the maps at least every five years and make any changes necessary.
> 3. Maps will be furnished to Wildlife Division, Regional Parks and Wildlife supervisors, District Wildlife Supervisor and local Parks Manager of recreation area involved.
> 4. On areas other than those designated as not compatible with the wildlife management program the Parks Division will confer with Wildlife Division before undertaking any activity which will damage wildlife habitat improvements or interfere with the wildlife program.
> 5. To cooperate with Wildlife Division to prevent destruction or developments made under this agreement by fire or other adverse land uses.
>
> WILDLIFE DIVISION AGREES:
> 1. To prepare plans and maintain records for wildlife development projects and to provide same to Parks Division upon request.
> 2. To provide nursery stock, lime, fertilizers, seeds, gates, fencing, or other barricades as may be needed to complete developments and protect the lands.
> 3. To supervise and do the wildlife habitat development work, including arrangements for labor supply, furnishing equipment, or negotiating contracts for privately owned equipment, negotiating sharecrop agreements, and supervision of field operations.
> 4. To keep the Park Manager informed of work currently being done in the recreation area for which he is responsible.
> 5. To provide the Park Manager three months in advance with a proposed work plan for projects to be done in the following fiscal year.
> 6. All work will be carried out according to approved plans.

Special Legislation

Public Act 27, 1944, appropriated $5,000,000 for acquisition of land for recreation facilities. $1,500,000 was dedicated to purchasing lands in southeastern Michigan.

Public Act 50, 1944, appropriated $632,500 for the purposes of purchasing land, construction of state parks, and repairing/remodeling the State Capitol and office buildings. Of the $632,500, $450,000 went to the Department of Conservation.

State Game Fund

Revenue from this fund is raised through a $1.50 tax on deer hunting licenses.

Other sources available for future land acquisition include:

- Dingell Johnson
  The Federal Aid in Sport Fish Restoration Act, commonly referred to as the Dingell-Johnson act, was passed on August 9, 1950. It was modeled after the Pittman-Robertson Act to create a parallel program for management, conservation and restoration of fishery resources.

- Game and Fish Fund
  The Game and Fish Protection Fund provides revenues for the operation of the Fish, Wildlife, and Law Enforcement programs. Management, research, enforcement of fishing and hunting laws and acquisition of lands to be used for hunting and fishing purposes are examples of uses of this fund.

- Additional Sources
  Land purchased with any of the following: Recreation Bond, Waterways, LEFF, Harbor Development Fund, Environmental Settlement Fund, General Fund, and Swamp Tax Fund, Gifts, and exchanges.

A.5 RELATIONSHIP OF WATERLOO TO OTHER PARK RESOURCES

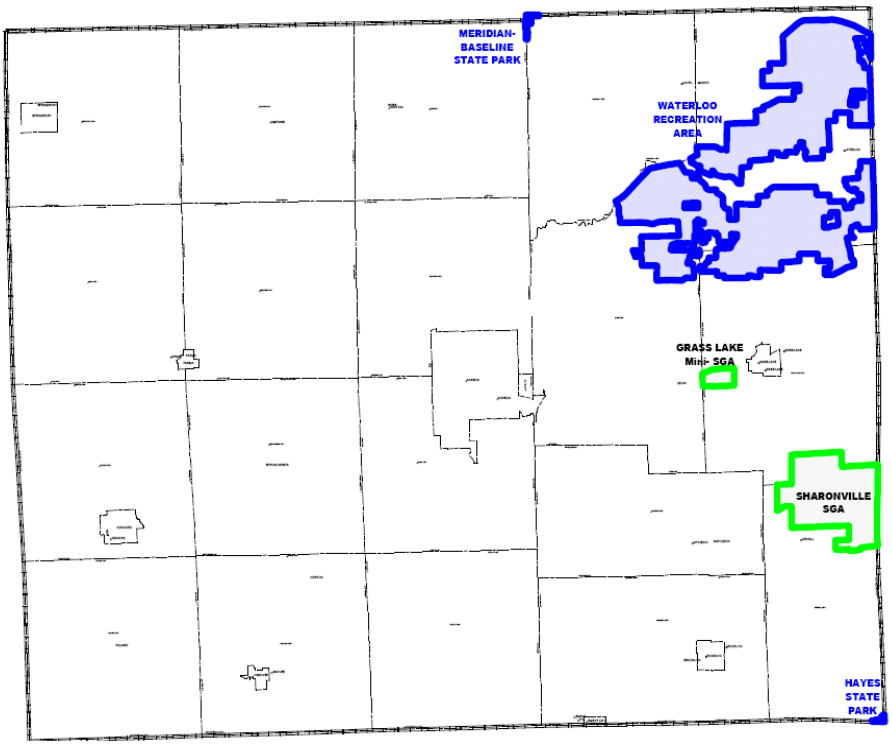
State Owned Resources in Jackson County

In Jackson County there are two State Parks and two State Game Areas in addition to Waterloo RA.

The Meridian-Baseline State Park designates the spot where all township, range, and section measurements begin for the entire state. It is located approximately four miles northwest of Waterloo RA on the northern boundary line of Jackson County. This Park is not accessible to the public and is being preserved because of its historical value.

Hayes State Park is ten miles south of Waterloo RA in the southeastern corner of Jackson County. W.J. Hayes State Park is popular because of its close proximity to Wampler's Lake. Other attractions near this site are the Michigan International Speedway, the Stage Coach Stop theme park, and a variety of craft and antique shows. Hayes State Park has 185 campsites and has recently been made handicapped accessible. Activities include a playground, swimming, fishing, boating, picnicking, and metal detecting.

Grass Lake State Game Area is two miles south of Waterloo RA and Sharonville State Game Area is four miles south of Waterloo.



County Owned Resources in Jackson County

County Parks and their significant features:

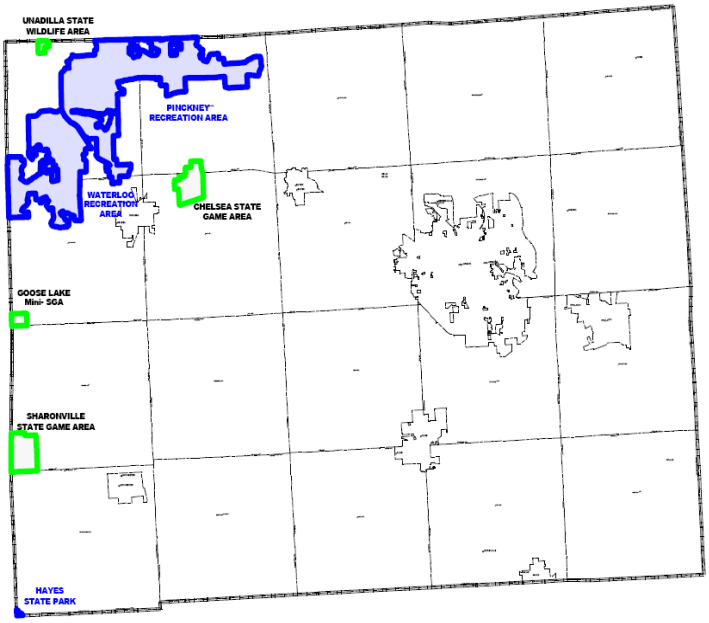
- Cascade Falls Park: man-made illuminated waterfall, paddle boat rental, miniature golf, tennis courts, shelter (by reservation), fishing, Cascades Short Course and driving range, Cascades 18-hole Championship Golf Course
- Clear Lake County Park: swimming area, shelter
- Clark Lake County Park: swimming, boat launch, picnic area
- Gillett's Lake County Park: swimming, picnic area, baseball diamond
- Grass Lake County Park: swimming, picnic area, boat launch
- Haehnle Audubon Sanctuary: nature viewing
- Horton Mill Pond County Park: playground, picnic area
- Lime Lake County Park: swimming, boat launch
- Little Wolf Lake County Park: swimming, playground, picnic area
- Minard Mills County Park: baseball diamond, picnic area, playground
- Pleasant Lake County Park and Campground: 69 modern campsites, swimming, biking, fishing, 18 hole golf course located within a half mile
- Portage Lake County Park: swimming, boat launch picnic area
- Round Lake County Park: boat launch, picnic area, potable water pump
- Swains Lake County Park and Campground: 56 modern campsites, boat launch, picnic area, playground, horse shoe pits, basketball court, swimming area, biking, fishing, volleyball, baseball diamond, 18 hole golf course across the street
- Vandercook Lake County Park: swimming, baseball diamond, boat launch, picnic area
- Vineyard Lake County Park: swimming, boat launch, playground

State Owned Resources in Washtenaw County

State recreational resources in Washtenaw County include four State Game Areas, Pinckney RA, and Hayes State Park, in addition to Waterloo RA.

Waterloo Recreation Area is closely tied to Pinckney Recreation Area, due to the fact that the parks are adjacent to one another. The main trail system, known as the Waterloo-Pinckney Hiking Trail, is common to both Recreations Areas and spans 29 miles through both parks. Similar activities are common to both Recreation Areas, such as camping, hiking, biking, horse riding, camping, fishing, and hunting.

The State Game Areas in Washtenaw County are Unadilla, half a mile to the northeast; Chelsea State Game Area, two miles to the east; Goose Lake, two miles south; and Sharonville State Game Area, six miles south.



County Owned Resources in Washtenaw County:

12 parks and 6 nature preserves are located in Washtenaw County. Many parks share activities similar to those found at Pinckney RA, such as swimming, hiking, fishing, and picnicking. Both state and county have historical resources within their parks. Two county owned facilities offer water parks.

County Parks and their significant features:

- Sharon Mills Park: Sharon Mill is a historic building built in 1835, formerly owned by Henry Ford in the 1930's
- Cavanaugh Lake Park: lakeside picnic area, no swimming
- Pierce Lake Golf Course and Park: 18 holes, with pro shop and picnic pavilion
- Park Lyndon: trail system that ties into the Waterloo-Pinckney Trail
- Osborne Mill Park: maintained as a natural area, no services
- Independence Lake Park: "Spray Zone", boat rental, and swimming beach.
- Northfield Park: roadside park with restroom and playground
- Parker Mill Park: Parker Mill is a historical building built in 1873, fishing
- County Farm Park: community garden
- Meri Lou Murray County Recreation Center: pool, gymnasium, workout facilities
- Rolling Hills Park and Water Park: water park, trail system, sledding, 18 hole disc golf, fishing
- Superior Center: 1 acre, picnic pavilion

There are also six county nature preserves: Leonard Preserve, Ervin-Stucki Preserve, Brauer Preserve, DeVine Preserve, Burns-Stokes Preserve, and LeFurge Woods Preserve.

Table #1: Summary of Regional Recreational Resources
Sources: Washtenaw County, Jackson County, State of Michigan

Recreational Resource	County	Municipality	Features																	
			Picnic Area	Hiking	Hunting/ Trapping	Biking	Play-ground	Equestrian	Swimming	Boat Launch	Snow Mobil	XC Skiing	Concession/ Vending	Camping	Drinking Water	Rest Rooms	Showers	Sport Field/Ct	Fishing	Wildlife Viewing
State Resources																				
Pinckney Recreation Area	Washtenaw, Livingston	Multiple	X	X	X	X		X	X	X		X		X					X	X
Hayes State Park	Washtenaw, Jackson, Lenawee	Multiple	X				X		X	X				X		X			X	
Unadilla State Game Area	Washtenaw, Livingston	Unadillla, Lyndon			X															
Chelsea State Game Area	Washtenaw	Dexter, Lima			X															
Goose Lake State Game Area	Washtenaw	Sylvan			X															
Sharonville State Game Area	Washtenaw, Jackson	Multiple			X															
Meridian-Baseline State Park	Jackson																			
Grass Lake State Game Area	Jackson	Grass Lake			X															
County Resources																				
Sharon Mills Park	Washtenaw	Sharon	X																X	
Cabanaugh Lake Park	Washtenaw	Sylvan	X				X												X	
Pierce Lake Golf Course and Park	Washtenaw	Chelsea	X																	
Park Lyndon	Washtenaw	Lydon	X	X			X								X					
Osborne Mill Park	Washtenaw	Ann Arbor																		
Independence Lake Park	Washtenaw	Whitmore Lake	X	X					X										X	
Northfield Park	Washtenaw	Northfield	X	X			X									X		X		
Parker Mill Park	Washtenaw	Ann Arbor		X											X	X			X	

County Resources	County	Municipality	Picnic Area	Hiking	Hunting/ Trapping	Biking	Play-ground	Equestrian	Swimming	Boat Launch	Snow Mobile	XC Skiing	Concession/ Vending	Camping	Drinking Water	Rest Rooms	Showers	Sports Field/Ct	Fishing	Wildlife Viewing
County Farm Park	Washtenaw	Ann Arbor																		X
Meri Lou Murray County Recreation Center	Washtenaw	Ann Arbor							X						X	X	X			
Rolling Hills Park and Water Center	Washtenaw	Ypsilanti	X	X			X		X			X						X	X	
Superior Center	Washtenaw	Superior	X																	
Cascade Falls Park	Jackson	Jackson	X				X											X	X	
Clear lake County Park	Jackson	Jackson	X				X		X											
Clark Lake County Park	Jackson	Clark Lake	X				X		X	X										
Gillett's Lake County Park	Jackson	Jackson	X				X		X									X		
Grass Lake County Park	Jackson	Grass Lake	X				X		X	X						X				
Haehnle Audubon Sanctuary	Jackson	Grass Lake																		X
Horton Mill Pond County Park	Jackson	Hanover	X				X													
Lime Lake County Park	Jackson	Spring Arbor							X	X										
Little Wolf Lake County Park	Jackson	Nepoleon	X				X		X											
Minard Hills County Park	Jackson	Tompkins	X															X		
Pleasant Lake County Park	Jackson	Henrietta	X			X	X		X					X		X	X		X	
Portage Lake County Park	Jackson	Waterloo	X				X		X	X										
Round Lake County Park	Jackson	Horton	X				X			X					X					
Swain's County Park	Jackson	Concord	X	X		X	X		X	X				X		X	X	X	X	
Vandercook Lake County Park	Jackson	Summit	X				X		X	X						X		X		

County Resources	County	Municipality	Picnic Area	Hiking	Hunting/ Trapping	Biking	Play-ground	Equestrian	Swimming	Boat Launch	Snow Mobile	XC Skiing	Concession/ Vending	Camping	Drinking Water	Rest Rooms	Showers	Sports Field/Ct	Fishing	Wildlife Viewing
Vineyard Lake County Park	Jackson	Columbia					X		X	X										
Leonard Preserve	Washtenaw	Village of Manchester		X																X
Ervin-Stucki Preserve	Washtenaw	Bridgewater																		X
Brauer Preserve	Washtenaw	Freedom																		X
DeVine Preserve	Washtenaw	Scio																		X
Burns-Stokes Preserve	Washtenaw	Scio																		X
Lefurge Woods Preserve	Washtenaw	Superior		X																X

A.6 CURRENT LAND USE

Waterloo Recreation Area is a multi-use park with a variety of recreational opportunities including camping, picnicking, metal detecting, fishing, hunting, snowmobiling, hiking, mountain biking, and horseback riding. One of the most important features of Waterloo is its untarnished natural state in a region that is swiftly being developed into urban communities. Thus, development has been restricted and concentrated into a few areas of the park.

From 2002-2003 over 7 million dollars were invested into Waterloo RA for infrastructure improvements. This included expanding the Eddy Center (including new displays), and a complete renovation of Portage Lake and Sugarloaf Campgrounds and day use areas. Most of the funding for these improvements came from the "Clean Michigan Initiative."

- Portage Lake - Located on the western side of the park, the Portage Lake Unit offers modern camping amenities including electrical service, two restroom facilities, four drinking water access sites, seven handicap accessible campsites, a sanitation station, and dumpsters for trash removal. There are 136 sites at Portage Lake, seven of which are handicap accessible. It also includes a swimming beach with a concession/restroom building. For those interested in fishing there is a modern boat launch and fishing pier that complies with the Americans with Disabilities Act (ADA).

- Sugarloaf Lake Campground - Sugarloaf Lake Campground is a modern campground located in the southeastern section of Waterloo, just off Loveland Road. It has 164 campsites, of which 10 are handicap accessible. There is one restroom to service the campground and seven sites to access drinking water. Also included are a playground, boat launch, swimming beach, sanitation station, dumpsters, and a campground office.

- Equestrian Campground - Closely located to Sugarloaf Lake Campground, the equestrian campground offers easy access to a multitude of trails running through the park. There are 25 rustic camping sites.

- Gerald E. Eddy Discovery Center - Situated with a view of Mill Lake, the Gerald E. Eddy Discovery Center provides educational and interpretive services for park visitors. Many nature trails have their origin at the Eddy Center. More detailed information is provided in the Education and Interpretation Section.

- Cedar Lake Group Camp - Cedar Lake Group Camp is leased by the Michigan United Conservation Clubs (MUCC). Many of the original cabins are still in use for the outdoor education program.

- Mill Lake ODC - Mill Lake is not in use, but has historical importance as one of the original developments under the National Park Service administration in Waterloo.

- Green Lake ODC - Camping at Green Lake is rustic, with 25 sites and a small boat launch into Green Lake.

- Trail Resources - Seven trails originate at the Eddy center and range from less than one mile to over five miles. These trails are open to hiking and cross county skiing only.
    - Old Field Trail – (.8 Mile)
    - Lowland Trail – (1.1miles)
    - Spring Pond Trail – (1 mile)
    - Bog Trail – (1.5 miles)
    - Oak Woods Trail – (1.3 miles)
    - Lakeview Trail – (3.6 miles)
    - Hickory Hills Trail - (5.3 miles

Waterloo RA also contains twelve miles of bridle trails originating from the equestrian campground, and five miles of mountain biking trails that can be accessed from Katz and Glenn Roads. The Waterloo-Pinckney trail can also be accessed at the Waterloo trailhead located at the Portage Lake boat launch area. This trail also ties into the Potawatomi trail.

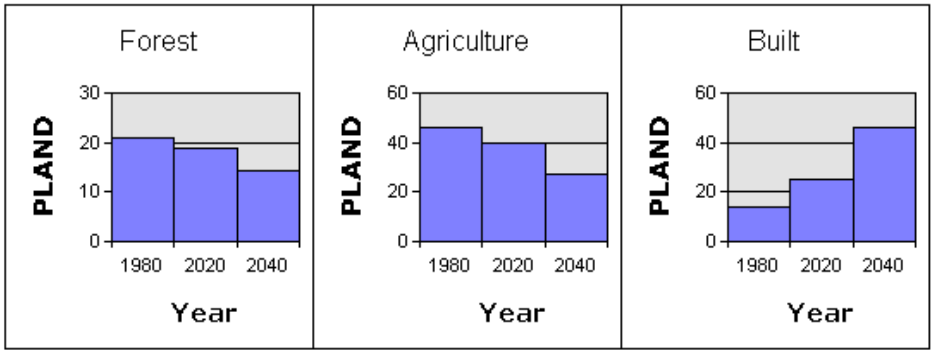
A.7 PROJECTED LAND COVER (1980 – 2040)

Both Jackson and Washtenaw counties will be experiencing rapid urban development over the next 20 years. As such, agricultural and forested land will be quickly developed as urban areas, concentrated around the Jackson and Ann Arbor area.

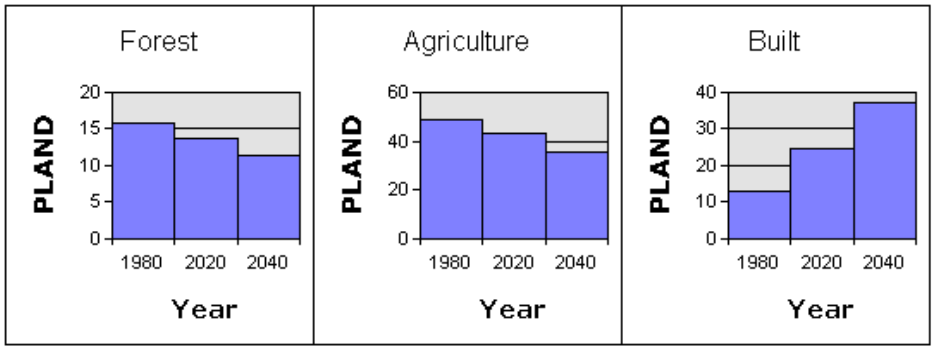
Currently forest cover makes up less than 20% of land cover in Jackson and Washtenaw Counties, and agricultural land covers about 40%. Urban built environment covers approximately 25% of all land.

It is projected that by the year 2040 nearly half of all land in Jackson and Washtenaw Counties will be developed. As a result forests and agricultural lands will suffer the greatest loses. For this reason it is important to maintain state parks in areas where they may be the only natural landscape available for recreational purposes.

Jackson County: Wetland, Forest and Built Environment as a Percentage of Land Area

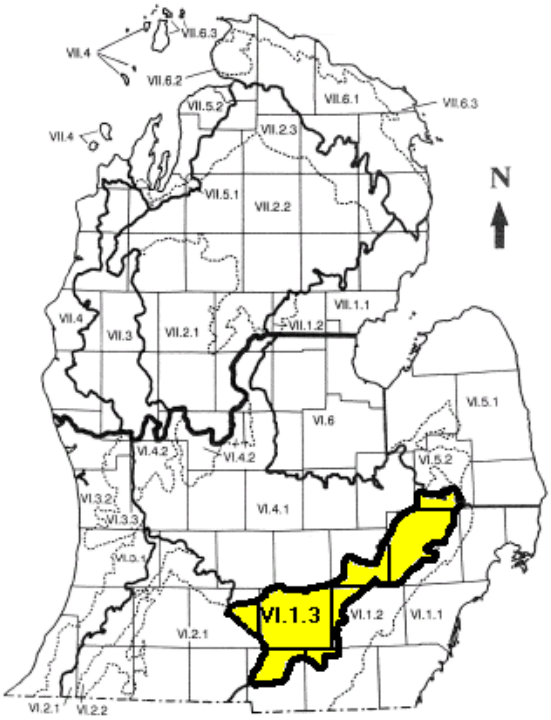


Washtenaw County: Wetland, Forest and Built Environment as a Percentage of Land Area



A.8 NATURAL RESOURCES

Information contained in this section was obtained from: Regional Landscape of Michigan and Wisconsin, A Working Map and Classification. Dennis Albert. September 20, 1995.



Map excerpted from Michigan Natural Features Inventory (MNFI) Report, page 22

Waterloo Recreation Area is located in section 6, subsection 1.3, known as the Jackson Interlobate, It contains coarse textured end moraine, outwash, and ice contact topography; oak savannah and oak-hickory forest, hardwood swamps, prairie fens, and bogs.

Geology and Topography

The underlying Mississippian and Pennsylvanian bedrock, primarily sandstone, is locally exposed at the surface in the southwestern end of the subsection. Drift thickness is generally less than 100 feet. In the northeastern part bedrock is overlain by 250 to 300 feet of glacial drift.

There are broad expanses of outwash sands that surround sandy and gravelly end moraines and ground moraines. End and ground moraines remain as island-like hills surrounded by flat outwash. Larger linear segments of end moraine, broken by only narrow outwash channels are typically located along the margins of the subsection.

The Jackson Interlobate region includes areas of ice contact topography. Kettle lakes, kames, eskers, and segments of outwash channels are predominant features of the ice contact areas. At the west edge the topography is more gentle; broad coarse textured ridges are surrounded by deposits of outwash land.

Soils

Soils found in the moraine areas of the park are either well drained or excessively drained. In the outwash regions drainage ranges from excessively well drained to poorly drained. Ice contact areas are excessively well drained on upland kames and eskers, and are poorly drained in the kettles and outwash channels. Sandy loam is the most prevalent soil type in the moraine ridges, while sand is most prevalent on the outwash plains. The glacial drift that forms the moraine ridges is made up of local limestone bedrock. Illuviation is responsible for the clay rich horizon in many of the soils on the moraines, providing a good water holding capacity. Ice contact areas contain sand and gravel.

Climate

Growing season is 140 to 150 days. Danger of late spring frosts is great due to numerous lowland depressions, including outwash and kettle lakes. Average snowfall is 40 to 50 inches. Annual precipitation is 30 to 32 inches. Extreme minimum temperatures range from -22° F to -28° F. Due to the Waterloo RA's southern location in the Jackson Interlobate Region, the climate data for Jackson and Washtenaw County vary slightly.

JACKSON COUNTY CLIMATE		
MONTH	**AVG. MIN TEMP**	**AVG. MAX TEMP.**
January	15F./-9C..	29F./-2C.
July	61F.'16C.	83F./28C.
PRECIPITATION	**RAINFALL**	**SNOWFALL**
Average Annual	29in./74cm.	39in./99cm.
GROWING SEASON	**DAYS ABOVE 90F/32C**	**DAYS BELOW**
152	13	10
		Source: NOAA Climate Summary, 1995

Water Resources

Many kettle lakes and ponds can be found on the outwash, end moraines, and ice contact areas. Extensive wetlands surround many of the lakes and occupy entire ice-block depressions. Both marl and peat deposits were extensively mined in the past. The headwaters of many major rivers originate in the extensive wetlands. These are the Huron, Grand, Kalamazoo, and St. Joseph Rivers. Lakes and ponds are scattered throughout the entire park, ranging in size from a few acres to over 500 acres. Many of these lakes are spring fed. The depth of these lakes is as varied as their size, with depths anywhere from two feet to forty feet. The irregular depth and shape of the lakes is largely due to the irregular topography left from prehistoric glaciers. Because of the glacial originations of most of these lakes, their bottoms are formed mainly of sand, gravel, marl, or muck. Shores are marshy in places with zones of pond lily, arrowhead, cat-tails, reeds, marsh grasses, and shrubs such as dogwood, elderberry, buttonbush, and willows. Occasionally tamarack is found in the flat swamps which represent former

lake beds. Water is satisfactory for bathing, but not for drinking, according to the State Health Department.

Lakes found within Waterloo RA:

- Big Portage Lake: 531 acres, 40' deep
- Cassidy Lake – 46 acres, 12' deep
- Cavanaugh Lake – 217 acres, 20' deep
- Cedar Lake – 76 acres, 27' deep
- Clear Lake – 137 acres, 34' deep
- Crooked Lake – 113 acres, 20' deep
- Doyle Lake – 18 acres, 14' deep
- Green Lake – 150 acres, 13' deep
- Hankard Lake – 7 acres, 8' deep
- Little Portage Lake – 174 acres, 21' deep
- Long Lake – 150 acres, 30' deep
- Merkle Lake – 94 acres, 12' deep
- Mill Lake – 163 acres, 24' deep
- Mud lake – 92 acres, 7' deep
- Sugarloaf Lake – 205 acres, 20' deep
- Walsh Lake – 15 acres, 21' deep
- Welch Lake – 106 acres, 20' deep

Information on water resources was obtained from "State of Michigan Environmental Assessment – Waterloo RA"

Topography

Waterloo Recreation Area exhibits the complex and irregular topography characteristic of the Interlobate Region. Consisting of portions of steep sloped end moraine and road outwash channels overlain with pitted ice contact topography, as demonstrated by the numerous kames, eskers, lakes and ponds scattered throughout the Recreation Area. High points of the park include Sugarloaf Hill (1108 feet), Pondlilly Lookout (1050 feet), and Sackrider Hill (1050 feet). The major moraine deposits extend along a line from Green Lake to Sackrider Hill. Land to the south of this line is composed of flood plains and some low hills. To the north lie extensive swamps. Dispersed throughout the swamp region are islands of high ground covered with oak and hickory.

*information on geology and topography was obtained from "State of Michigan Environmental Assessment – Waterloo RA"

Soils

Within Waterloo RA there are several soil types. Usually each soil boundary encloses an association of soils rather than one definite soil. The association is made up of one dominant soil.

- Bellefontaine: This soil type has a loamy surface layer over sandy clay loam or clay loam. Runoff is slow in the flat areas and rapid in the more sloping areas.

- Coloma: Well drained soils with a sandy surface layer over alternate layers of sand and loamy sand or light sandy loam, over sand. Low dunes, lake plains, and moraines. Droughty and susceptible to erosion.
- Hillsdale: The Hillsdale series consists of gentle sloping to steep, well drained soils on all plains and moraines. These soils are formed in sandy loam fill. Permeability is moderate. The available water capacity is moderate and fertility is medium. Surface runoff is slow to rapid.
- Carlisle: The Carlisle series consists of black to very dark brown, well decomposed organic soils. The soils take form from mixed woody and fibrous materials under a swamp-timber type of vegetation. The organic soil materials are generally more than 42 inches thick. The Carlisle soils occur in old lakebeds and in drainage ways, but the most extensive areas are in closed depression in the uplands. A few areas occur in bottom lands, outwash plains, and in old glacial valleys.
- Houghton: The Houghton series consists of organic soils that have formed from fibrous plant remains deposited in wet depressions. In the uppermost few inches, the sedges and grasses from which these soils formed are partly or completely decomposed. They are successively less decomposed at increasing depths. These soils occur mainly in marshy areas, some of which are bordered by lakes. They differ from Carlisle, which has formed mainly from woody plants rather than from fibrous materials. The thickness of organic deposits ranges from five to twenty feet. The degree of decomposition varies; in a few areas the surface is somewhat woody.
- Rifle: The Rifle series consists of organic soils mainly formed from slightly decomposed woody plants including tamarack, red maple, elm, and white birch. The soils are similar to Carlisle and Houghton soils, but the surface layer of the Carlisle soils consist of much more decomposed muck and the Houghton soils have formed mainly from fibrous plant remains.

Information on soil was obtained from "State of Michigan Environmental Assessment – Waterloo RA"

Flora – Presettlement

Originally, two types of oak forest covered the landscape of Waterloo Recreation Area, dry and dry-mesic. These oak forests are typical of, and primarily located, in southern Michigan. The dominant trees are white oak and black oak. Other trees common to these areas are hickory and red maple. Species including basswood and American ash were more common of the dry-mesic forest, while black cherry and sassafras were more common in the dryer forest. Ground flora in the dry-mesic forest was abundant with species of doll's eyes (Actaea alba), spotted coral root (Corallorhiza maculata), yellow violet (Viola pubascens), and sedges such as Carex albursina and Carex convolute.

Black oak barrens, also known as savannahs, developed one the edges between ice contact and outwash plain. Oak barrens were distinguished by scattered trees, usually black and white oak. Shrubs covered the rest of the terrain, characterized as dry sand prairie. Black oak barrens can now be found southwest of Portage Lake, as well as to the south and to the west of the Portage Lake Swamp Complex.

Kettle depressions, formed by receding glaciers, contained small lakes, ponds, marshes, shrub swamp, hardwood swamp, and mixed conifer swamp. Shrub swamps were inhabited by sedges that graded into dogwood, willow, and buttonbush. Conifer swamps were dominated by tamarack. Hardwood swamps contained elm, ash, and maple.

Flora – Current Landcover

In the past, fire was an important natural process. Without the presence of fire there was no way to keep the growth of the forest in check. For this reason the barrens, marshes, and fens have made a gradual shift to a forested community. Light demanding oak trees require an open canopy to develop and will eventually be replaced by shade tolerant species such as sugar maple and red maple.

Human intervention has greatly affected the flora in Waterloo Recreation Area. Excluding steep ice contact slopes, land in the RA specifically, and in southern Michigan generally, has been cleared for farming or construction in the past. This process has been detrimental to indigenous species and allowed a foothold for invasive species in Waterloo RA.

Wetlands have fared the best. Wetlands and wetland communities still occur in several of their original locations. These include emergent marshes, southern wet meadow, prairie fen, conifer swamp, and deciduous swamp. Due to drainage ditches, dikes, dams, and succession caused by fire suppression, the abundance, distribution, and composition of these wetland communities has been altered. Wet prairie communities have transformed into southern shrub swamp, southern wet meadow, or hardwood swamps. Furthermore, this change has allowed non-native plants to invade.

Even though all of the upland forests in Waterloo RA were once cut, mature dry southern forests have developed on ice contact hills, where the land was impractical for agricultural use.

A dry southern forest occurrence extends west to southwest from Crooked Lake to Mt. Hope road. Dry southern forest intermixes with dry-mesic southern forest in a narrow band, less than half a mile wide. This band is continuous for over six miles. Mature portions are split up by younger second growth and wetland pockets.

Smaller patches of dry mesic southern forest extend throughout the Waterloo RA in less hilly areas bordering wetlands. Patches of dense black locust are often on the edges of both dry and dry-mesic southern forest.

The remaining level upland is old agricultural land that is now old field. Many of these fields have filling in with autumn olive and are dominated by other non-native plants. These include spotted knapweed, white sweet clover, timothy grass, Kentucky bluegrass, and quack grass.

Many of the wetland pockets in kettle depressions have developed a ring around their outer edge of emergent aquatics or inundated shrub swamp and an interior of southern shrub swamp or tamarack swamp. However, some wetland pockets contain southern sedge meadow that is dominated by large-leaved sedges.

Wetlands around lakes and along streams are often a variety of relict conifer (tamarack) swamp, southern swamp, southern wet meadow, emergent marsh, prairie fen, and southern shrub swamp. Bog also exists around Little Cedar Lake and west of Welch Lake. Portage Lake, aside from several drainage ditches, is an intact wetland system.

Fauna – Common

Animal populations in Waterloo RA are typical of the region. Common animals include: deer, rabbit, fox, raccoon, opossum, squirrels, and coyotes. Avian species include swans, snow and blue geese, Canada geese, mallards, black ducks, blue wing teal, wood ducks, bitterns, great blue herons, black terns, coot, egrets, pheasant, quail, ravens, crows, red winged blackbirds, and a number of songbird species. One bird of note is the sandhill crane, which attracts bird watchers from all across the nation to Waterloo RA. As many as 2,000 sandhill cranes have been spotted in a field at one time at Waterloo. Unfortunately, many domestic animals, such as dogs and cats, have been abandoned in the park and are now part of the habitat.

Special Concern, State Threatened, or State Endangered Species

Spike-rush (Eleocharis caribaea)
Horsetail spike-rush (Eleocharis equisitoides)
Wild-rice (Zizania aquatica var. aquatica)
Prairie dropseed (Sporobolus heterolepi)
Sedge (Carex seorsa)
Clinton's bulrush (Scirpus clintoni)
Tall nut-rush (Scleria triglomerata)

*list taken from "Inventory and Management Recommendations for Pinckney and Waterloo State Recreation Areas' Natural Communities, Rare Plants, and Rare Wildlife"

Special Concern, State Threatened, State Endangered, and Federally Endangered

American bittern (Botaurus lentigonosus)
Black rat snake (Elaphe obsolete)
Blanchard's cricket frog (Acris crepitans blanchardii)
Blanding's turtle (Emydoidea blandingii)
Cerulean warbler (Dendroica cerulean)
Common moorhen (Gallinula chloropus)
Dickcissel Spiza (Americana)
Eastern box turtle (Terrepene Carolina)
Eastern massasauga (Sistrurus catenatus)
Great-blue heron rookery
Henslow's sparrow (Ammodramus henslowii)
Hooded warbler (Wilsonia citrine)
Indiana bat (Myotis sodalist)
King rail (Rallus elagans)

Least bittern (Ixobrychus exilis)
Spotted turtle (Clemmy guttata)
Tamarack tree cricket (Oecanthus laricis)
*list taken from "Inventory and Management Recommendations for Pinckney and Waterloo State Recreation Areas' Natural Communities, Rare Plants, and Rare Wildlife"

Michigan Natural Features in Washtenaw County*

Scientific Name	Common Name	Federal Status	State Status
Acris crepitans blanchardi	Blanchard's cricket frog		T
Acronicta falcula	Corylus dagger moth		SC
Adlumia fungosa	Climbing fumitory		SC
Alasmidonta marginata	Elktoe		SC
Alasmidonta viridis	Slippershell		T
Ambystoma texanum	Smallmouth salamander		E
Ammodramus henslowii	Henslow's sparrow		E
Ammodramus savannarum	Grasshopper sparrow		SC
Angelica venenosa	Hairy angelica		SC
Anguispira kochi	Banded globe		SC
Aristolochia serpentaria	Virginia snakeroot		T
Artemisia ludoviciana	Western mugwort		T
Asclepias purpurascens	Purple milkweed		T
Asclepias sullivantii	Sullivant's milkweed		T
Aster praealtus	Willow aster		SC
Astragalus canadensis	Canadian milk vetch		T
Astragalus neglectus	Cooper's milk vetch		SC
Baptisia lactea	White or prairie false indigo		SC
Battus philenor	Pipevine swallowtail		SC
Betula murrayana	Murray birch		SC
Bog			
Botaurus lentiginosus	American bittern		SC
Bouteloua curtipendula	Side-oats grama grass		E
Bromus nottowayanus	Satin brome		SC
Buteo lineatus	Red-shouldered hawk		T
Calephelis mutica	Swamp metalmark		SC
Carex davisii	Davis's sedge		SC
Carex festucacea	Fescue sedge		SC
Carex lupuliformis	False hop sedge		T
Carex seorsa	Sedge		T
Carex squarrosa	Sedge		SC
Carex trichocarpa	Hairy-fruited sedge		SC
Castanea dentata	American chestnut		E
Celtis tenuifolia	Dwarf hackberry		SC
Chelone obliqua	Purple turtlehead		E
Cistothorus palustris	Marsh wren		SC
Clemmys guttata	Spotted turtle		T
Clinostomus elongatus	Redside dace		E
Clonophis kirtlandii	Kirtland's snake		E
Coregonus artedi	Lake herring or Cisco		T
Cryptotis parva	Least shrew		T
Cyclonaias tuberculata	Purple wartyback		T
Cygnus buccinator	Trumpeter swan		T
Cypripedium arietinum	Ram's head lady's-slipper		SC
Cypripedium candidum	White lady slipper		T
Dendroica cerulea	Cerulean warbler		T
Dendroica discolor	Prairie warbler		E
Dichanthelium leibergii	Leiberg's panic grass		T
Discus patulus	Domed disc		SC
Dorydiella kansana	Leafhopper		SC
Dry Southern Forest	Well Drained Forest, Central Midwest Type		
Dry-mesic Prairie	High Prairie, Midwest Type		
Dry-mesic Southern Forest			
Eacles imperialis pini	Pine imperial moth		SC

Scientific Name	Common Name	Federal Status	State Status
Echinacea purpurea	Purple coneflower		X
Eleocharis equisetoides	Horsetail spike rush		SC
Eleocharis geniculata	Spike-rush		X
Eleocharis radicans	Spike rush		X
Emydoidea blandingii	Blanding's turtle		SC
Epioblasma triquetra	Snuffbox	C	E
Eragrostis capillaris	Love grass		SC
Eragrostis pilosa	Small love grass		SC
Erynnis baptisiae	Wild indigo duskywing		SC
Etheostoma spectabile	Orangethroat darter		SC
Euonymus atropurpurea	Wahoo		SC
Eupatorium sessilifolium	Upland boneset		T
Euphyes dukesi	Dukes' skipper		T
Falco peregrinus	Peregrine falcon		E
Fuirena pumila	Umbrella-grass		T
Galearis spectabilis	Showy orchis		T
Gallinula chloropus	Common moorhen		T
Gentiana flavida	White gentian		E
Gentiana puberulenta	Downy gentian		E
Gentianella quinquefolia	Stiff gentian		T
Geum virginianum	Pale avens		SC
Great Blue Heron Rookery	Great Blue Heron Rookery		
Helianthus hirsutus	Whiskered sunflower		SC
Hemicarpha micrantha	Dwarf-bulrush		SC
Hemileuca maia	Barrens buckmoth		SC
Hillside Prairie	High Prairie, Midwest Type		
Hybanthus concolor	Green violet		SC
Hydrastis canadensis	Goldenseal		T
Inundated Shrub Swamp	Shrub Swamp, Central Midwest Type		
Isotria verticillata	Whorled pogonia		T
Ixobrychus exilis	Least bittern		T
Jeffersonia diphylla	Twinleaf		SC
Justicia americana	Water willow		T
Lampsilis fasciola	Wavyrayed lampmussel		T
Lechea minor	Least pinweed		X
Lepisosteus oculatus	Spotted gar		SC
Lepyronia angulifera	Angular spittlebug		SC
Ligumia recta	Black sandshell		E
Linum virginianum	Virginia flax		T
Liparis liliifolia	Purple twayblade		SC
Lithospermum latifolium	Broad-leaved puccoon		SC
Mesic Sand Prairie	Moist Sand Prairie, Midwest Type		
Mesic Southern Forest	Rich Forest, Central Midwest Type		
Microtus pinetorum	Woodland vole		SC
Morus rubra	Red mulberry		T
Muhlenbergia richardsonis	Mat muhly		T
Myotis sodalis	Indiana bat	LE	E
Myrica pensylvanica	Northern bayberry		T
Neonympha mitchellii mitchellii	Mitchell's satyr	LE	E
Nicrophorus americanus	American burying beetle	LE	X
Notropis anogenus	Pugnose shiner		E
Notropis photogenis	Silver shiner		E
Noturus miurus	Brindled madtom		SC
Noturus stigmosus	Northern madtom		E
Oak Barrens	Barrens, Central Midwest Type		
Oarisma poweshiek	Poweshiek skipperling		T
Obovaria olivaria	Hickorynut		E
Oecanthus laricis	Tamarack tree cricket		SC
Panax quinquefolius	Ginseng		T
Pantherophis spiloides	Gray ratsnake		SC
Papaipema beeriana	Blazing star borer		SC
Papaipema silphii	Silphium borer moth		T
Paronychia fastigiata	Low-forked chickweed		X
Penstemon pallidus	Pale beard tongue		SC
Phoxinus erythrogaster	Southern redbelly dace		E

Scientific Name	Common Name	Federal Status	State Status
Platanthera ciliaris	Orange- or yellow-fringed orchid		E
Platanthera leucophaea	Prairie white-fringed orchid	LT	E
Pleurobema sintoxia	Round pigtoe		SC
Poa paludigena	Bog bluegrass		T
Polemonium reptans	Jacob's ladder		T
Pomatiopsis cincinnatiensis	Brown walker		SC
Poor Conifer Swamp			
Populus heterophylla	Swamp or Black cottonwood		E
Prairie Fen	Alkaline Shrub/herb Fen, Midwest Type		
Prosapia ignipectus	Red-legged spittlebug		SC
Ptychobranchus fasciolaris	Kidney shell		SC
Pyrgulopsis letsoni	Gravel pyrg		SC
Rallus elegans	King rail		E
Ranunculus rhomboideus	Prairie buttercup		T
Rhynchospora scirpoides	Bald-rush		T
Rich Tamarack Swamp	Forested Bog, Central Midwest Type		
Ruellia humilis	Hairy wild petunia		T
Sabatia angularis	Rosepink		T
Sanguisorba canadensis	Canadian burnet		E
Scirpus clintonii	Clinton's bulrush		SC
Scleria triglomerata	Tall nut rush		SC
Seiurus motacilla	Louisiana waterthrush		T
Silphium integrifolium	Rosinweed		T
Silphium laciniatum	Compass plant		T
Silphium perfoliatum	Cup plant		T
Sistrurus catenatus catenatus	Eastern massasauga	C	SC
Southern Hardwood Swamp			
Southern Wet Meadow	Wet Meadow, Central Midwest Type		
Speyeria idalia	Regal fritillary		E
Spiranthes ovalis	Lesser ladies'-tresses		T
Spiza americana	Dickcissel		SC
Sporobolus heterolepis	Prairie dropseed		SC
Strophostyles helvula	Trailing wild Bean		SC
Stylurus laurae	Laura's snaketail		SC
Submergent Marsh			
Terrapene carolina carolina	Eastern box turtle		SC
Tradescantia virginiana	Virginia spiderwort		SC
Trillium sessile	Toadshade		T
Utterbackia imbecillis	Paper pondshell		SC
Valeriana edulis var. ciliata	Edible valerian		T
Venustaconcha ellipsiformis	Ellipse		SC
Villosa iris	Rainbow		SC
Wet Prairie	Wet Prairie, Midwest Type		
Wet-mesic Prairie	Tallgrass Prairie, Central Midwest Type		
Wilsonia citrina	Hooded warbler		SC
Zizania aquatica var. aquatica	Wild rice		T

*Current as of 12/10/2010 according to the Michigan Natural Features Inventory Website. http://web4.msue.msu.edu/mnfi

State Protection Status Code Definitions
E = Endangered
T = Threatened
SC = Special concern
X = Presumed extirpated
(legally 'threatened' if rediscovered)

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LE = Listed endangered
LT = Listed threatened
LELT = Partly listed endangered and partly listed threatened
PDL = Proposed delist
E(S/A) = Endangered based on similarities/appearance
PS = Partial status (federally listed in only part of its range)
C = Species being considered for federal status

Michigan Natural Features in Jackson County*

Scientific Name	Common Name	Federal Status	State Status
Acris crepitans blanchardi	Blanchard's cricket frog		T
Alasmidonta marginata	Elktoe		SC
Alasmidonta viridis	Slippershell		T
Ammodramus henslowii	Henslow's sparrow		E
Ammodramus savannarum	Grasshopper sparrow		SC
Angelica venenosa	Hairy angelica		SC
Anguispira kochi	Banded globe		SC
Asclepias hirtella	Tall green milkweed		T
Asclepias purpurascens	Purple milkweed		T
Baptisia lactea	White or prairie false indigo		SC
Besseya bullii	Kitten-tails		E
Betula populifolia	Gray birch		SC
Bog			
Botaurus lentiginosus	American bittern		SC
Bouteloua curtipendula	Side-oats grama grass		E
Calephelis mutica	Swamp metalmark		SC
Celtis tenuifolia	Dwarf hackberry		SC
Chlidonias niger	Black tern		SC
Cirsium hillii	Hill's thistle		SC
Cistothorus palustris	Marsh wren		SC
Clemmys guttata	Spotted turtle		T
Coregonus artedi	Lake herring or Cisco		T
Cryptotis parva	Least shrew		T
Cyclonaias tuberculata	Purple wartyback		T
Cypripedium candidum	White lady slipper		T
Dendroica cerulea	Cerulean warbler		T
Dennstaedtia punctilobula	Hay-scented fern		T
Dichanthelium leibergii	Leiberg's panic grass		T
Discus patulus	Domed disc		SC
Dorydiella kansana	Leafhopper		SC
Dry Southern Forest	Well Drained Forest, Central Midwest Type		
Dry-mesic Southern Forest			
Eleocharis engelmannii	Engelmann's spike rush		SC
Eleocharis equisetoides	Horsetail spike rush		SC
Eleocharis geniculata	Spike-rush		X
Emergent Marsh			
Emydoidea blandingii	Blanding's turtle		SC
Erimyzon claviformis	Creek chubsucker		E
Eupatorium sessilifolium	Upland boneset		T
Euphyes dukesi	Dukes' skipper		T
Falco peregrinus	Peregrine falcon		E
Floodplain Forest			
Gallinula chloropus	Common moorhen		T
Geum virginianum	Pale avens		SC
Gomphus lineatifrons	Splendid clubtail		SC
Great Blue Heron Rookery	Great Blue Heron Rookery		
Helianthus mollis	Downy sunflower		T
Hetaerina titia	Smokey rubyspot		SC
Hillside Prairie	High Prairie, Midwest Type		
Hydrastis canadensis	Goldenseal		T
Inundated Shrub Swamp	Shrub Swamp, Central Midwest Type		
Ixobrychus exilis	Least bittern		T
Kuhnia eupatorioides	False boneset		SC
Lampsilis fasciola	Wavyrayed lampmussel		T
Lepisosteus oculatus	Spotted gar		SC
Lepyronia angulifera	Angular spittlebug		SC
Liparis liliifolia	Purple twayblade		SC
Muhlenbergia richardsonis	Mat muhly		T
Myotis sodalis	Indiana bat	LE	E
Neonympha mitchellii mitchellii	Mitchell's satyr	LE	E
Notropis texanus	Weed shiner		X
Noturus miurus	Brindled madtom		SC
Oarisma poweshiek	Poweshiek skipperling		T

Scientific Name	Common Name	Federal Status	State Status
Oecanthus laricis	Tamarack tree cricket		SC
Oecanthus pini	Pinetree cricket		SC
Panax quinquefolius	Ginseng		T
Pantherophis spiloides	Gray ratsnake		SC
Papaipema beeriana	Blazing star borer		SC
Papaipema maritima	Maritime sunflower borer		SC
Papaipema sciata	Culvers root borer		SC
Papaipema silphii	Silphium borer moth		T
Papaipema speciosissima	Regal fern borer		SC
Platanthera ciliaris	Orange- or yellow-fringed orchid		E
Pleurobema sintoxia	Round pigtoe		SC
Poa paludigena	Bog bluegrass		T
Polygala cruciata	Cross-leaved milkwort		SC
Pomatiopsis cincinnatiensis	Brown walker		SC
Poor Conifer Swamp			
Prairie Fen	Alkaline Shrub/herb Fen, Midwest Type		
Prosapia ignipectus	Red-legged spittlebug		SC
Rallus elegans	King rail		E
Rich Tamarack Swamp	Forested Bog, Central Midwest Type		
Scirpus clintonii	Clinton's bulrush		SC
Scleria triglomerata	Tall nut rush		SC
Silene stellata	Starry campion		T
Sistrurus catenatus catenatus	Eastern massasauga	C	SC
Sisyrinchium strictum	Blue-eyed-grass		SC
Southern Hardwood Swamp			
Southern Wet Meadow	Wet Meadow, Central Midwest Type		
Speyeria idalia	Regal fritillary		E
Spiza americana	Dickcissel		SC
Sporobolus heterolepis	Prairie dropseed		SC
Stylurus amnicola	Riverine snaketail		SC
Stylurus laurae	Laura's snaketail		SC
Terrapene carolina carolina	Eastern box turtle		SC
Utterbackia imbecillis	Paper pondshell		SC
Valeriana edulis var. ciliata	Edible valerian		T
Vallonia parvula	Trumpet vallonia		SC
Venustaconcha ellipsiformis	Ellipse		SC
Villosa iris	Rainbow		SC
Wet Prairie	Wet Prairie, Midwest Type		
Wet-mesic Prairie	Tallgrass Prairie, Central Midwest Type		
Wilsonia citrina	Hooded warbler		SC
Zizania aquatica var. aquatica	Wild rice		T

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A.9 HISTORIC/CULTURAL RESOURCES

Physical Environment

The physical environment was shaped by two major human forces in the past. The first force to change the landscape of the Waterloo RA region was Native Americans, who used fires to clear large sections of land. Later, farmers would use these same techniques to clear land for their crops, but also had the use of better technology such as saws, animals, and eventually machinery to clear vegetation and plow the soil. Areas with the oldest tree growth are those too steep to be used for farming or structure building, and consequently were never cleared.

Cultural Environment

For in depth information on the history surrounding the area of Waterloo Recreation Area, please refer to the ”General History of Waterloo RA.”

Archaeological Resources

There are known archeological sites within the park. Because of the vast amount of private in-holdings inside Waterloo RA, some historical sites may actually be on private property, but are still considered part of Waterloo RA’s historic resources. Fruit trees are often used as an indicator that there may have been a farmstead located on a particular piece of land.

Scattered throughout the park are many small family cemeteries. Some of these cemeteries have been moved, while others remain in their original locations. As well as cemeteries, traces of Indian burial mounds have been noted in various surveys conducted in the park.

One cemetery of note is known as Hatt, Glover, Richards, or Harvey Cemetery. It is not maintained, but is in relatively good condition. Five original limestone grave markers remain, only one retains most of its information including a date of death, 1904. Four original trees have survived as well. A wire fence still surrounds the cemetery site. Given the size of the cemetery, it would seem that many graves were unmarked or have lost their headstones.

Buildings and Structures

Mill Lake, originally designed as a work camp, was later revised and constructed as a youth camp.

The first group of campers at Mill Lake.

Mill Lake was outfitted with a dining hall equipped to serve 160 people and a first aid building. These structures were the only two wired for electricity. Other structures included an administrative office, museum/crafts shop, laundry, latrine,

a warehouse, a three car garage, personnel quarters, a boathouse, a pump house, eight ten-cot cabins for campers, and two troop houses (for meetings and camp training).

Cedar Lake Group Camp was completed in 1940, and consisted of a central core of community buildings and three separate camp groups. The central group included a dining hall, help quarters, wash house/laundry/latrine building, craft shop, maintenance building, staff quarters, infirmary, and administration building. The three camp groups consist of a number of cabins with room for four to eight campers and a two-person cabin to house the counselors. These buildings have had needed maintenance performed on them but retain much of their historical integrity. The exteriors of these buildings were made of rough sawed wood or board and batten. Their roofs were shingled with wood shingles and their foundations were either concrete or stone.

Construction on Cassidy Lake as a year round vocational school for boys was started in September, 1936. One interesting building in the complex was a remodeled barn used as a dormitory. The barn was intended only for temporary use as the construction of Cassidy Lake was rushed in order to open in time for the summer of 1937. The basement of this barn served as a workshop, tool room and warehouse. A farmhouse was used as a combined dinning hall, recreation room, and administrative offices while the dining hall and administrative building were under construction. There were 16 cabins, which were occupied by eight boys and one counselor. A dinning hall was erected to serve 160 people, as well as a craft shop, staff quarters, first aid building, and a help quarters (caretaker, cook quarters). The NPS also beautified Cassidy Lake by constructing a dike and two levees in order to raise the water level by two feet.

Camp Waterloo is currently leased by the Department of Corrections and it has been used as a low security prison. It is not in use and is currently in a state of decay. In the 1930's a CCC camp was built on the site. During World War II it was a military police training facility and then a German POW camp.

The former Sylvan Estates Country Club is the present site of the recreation area's headquarters. In fact, the original club house building is still in use. Some other elements of the club are still intact, as well. There was a pavilion nearby, now only a crumbling foundation, which offered a view of the "seven lakes" located in Pinckney RA. The trees have grown in so much that the view is now obstructed. Also, an original pump house remains but is currently in a state of decay.

The locations of twelve farmsteads are known. Farmstead 1, known as Bunn Farm, included a house and three or four outbuildings. The buildings on Farmstead 2 are known to be built of hand hewn lumber. One garage is still standing. Other buildings that once stood on Farmstead 2 were a barn, well house, corn crib, storage shed, and a house. Farmstead 3 is known to have been built at least 60 years ago. One of the two remaining buildings on Farmstead 4 was removed some years ago. An apple tree was found near this site, and it is evident that some fields were man-made around the farmstead. It is possible that this site is actually made up of two adjacent farmsteads. The only remnants of Farmstead 5 are the foundation of an old barn and a clearing that

is now being re-vegetated. Little is known about Farmstead 6 and Farmstead 7. Farmstead 8 includes a stone foundation and a cistern. Farmstead 9 was homesteaded by original settlers to the area. Recently torn down, Farmstead 10 was a centennial farm. Farmstead 11 still contains large foundation stones and a cistern. Walnut trees and former fields of the farmstead are still apparent. It is unknown if any original foundations are preserved from Farmstead 12, although a peach and walnut tree are still in existence.

Four historic dam locations have also been recorded. Locations are on Sylvan, Portage, Mud, and Sugarloaf Lakes. An airport, built circa 1940, is currently a hay field. A foundation is still present.

Three church camps were located in the area. The first was built circa 1950; the second was a Jewish called "Camp Ma-Hi-Ya." Foundations of both camps still remain in tact. The third camp was known as the "Michigan Baptist Assembly Camp."

Historic Landscape

Sackrider Hill is the second highest point in Waterloo RA (1,050 feet). Atop the hill stands a cross. It has been the subject of some controversy because having a religious symbol on State owned lands is prohibited, but since the cross has become a historic land marker it has remained on top of the hill. The present cross was built around 1950, but there are reports of a cross at this location before that time.

Local tradition claims there was a fort on Pond Lily Hill where soldiers were massacred by Indians.

A.10 EDUCATION AND INTERPRETATION

Situated with a view of Mill Lake, the Gerald E. Eddy Discovery Center provides educational and interpretive services for all. Here visitors can learn about the geology and habitats that are located within the park. There is a large interactive map in the Center's main room that illustrates the trails and campgrounds situated throughout the recreation area. Facing the lake is a bird observatory with outdoor speakers that enables visitors to hear the birds from inside the center. There are also exhibits that represent habitats found in the park including hardwood swamp, bog, beech-maple forest, and fen. The main room also has a large display of arrowheads that were donated to the Discovery Center. The Geology room is intended for children, with features that include a "Fossil Graveyard", "Ice Cave", "Weather Report", and a "Mad Scientist Lab." Additionally, the Eddy center utilizes an auditorium for educational films and a classroom for hands on work.

A.11 RECREATIONAL RESOURCES

Waterloo Recreation Area offers a diverse array of recreational opportunities with both day-use activities and camping. Following are the recreational features of this park:

- Gerald E. Eddy Visitor Center: Exhibits include interactive displays, multi-image slide shows, and other nature programs to orient visitors to Michigan's unique cultural and natural features.
- Hunting: Waterloo Recreation Area is open to hunting for all species following regular State Regulations between September 15 and March 31. This park boasts excellent deer and turkey hunting, with prevalent numbers of both species. Rabbit and squirrel can be found to a lesser degree throughout the park. In addition, there are areas throughout the park with populations of pheasant, quail, grouse and woodcock. Hiking and equestrian trails are within the open hunting areas. The area surrounding Mill and Cedar Lake, the area surround Portage Lake Campground, and private properties are all closed to hunting. The park is also open to trapping.
- Wildlife Viewing Area: The Haehnle Audubon Sanctuary occupies nearly 1000 acres of former farmland. The main attraction here is the fall migration of sandhill cranes. Up to 3,000 of these birds have been sighted at one time.
- Playgrounds: Play areas offer a variety of playground equipment for children. Playgrounds are available at the Portage Lake day-use area and the Sugarloaf Campground. Both are ADA compliant.
- Portage Lake Beach House: The beach house provides a changing area for swimmers. The beach house is available at the Portage Lake beach area. This facility is ADA compliant.
- Swimming Beaches: There is a public beach at Big Portage Lake and a “campers only” swimming beach at Sugarloaf Campground.
- Fishing: Fishing piers can be found at Big Portage Lake and Crooked Lake. Only Big Portage Lake has an ADA accessible fishing pier. Any of the publicly accessible lakes in Waterloo RA may be fished. Bass, panfish, bluegill, pike and other fish typical of the region inhabit the lakes of Waterloo RA.
- Big Portage Lake Picnic Area: A picnic site is located at Big Portage Lake and has picnic tables, grills, potable water, toilet facilities, and two picnic shelters which can be reserved ahead of time. Hours of operation are 8:00 a.m. to 10:00 p.m. The Big Portage Lake picnic area is ADA accessible.
- Crooked Lake and Mud Lake Picnic Areas: Smaller picnic sites are located at Crooked Lake and Mud Lake. Sites at both locations come equipped with picnic tables and grills.
- Hiking: Waterloo contains a wide variety of hiking trails, including the Waterloo-Pinckney Trail. Many of the trails originate at the Eddy Center, range from less than one mile to over five miles.
- Equestrian Trails: Three different trail options totaling 15 miles.

- Mountain Biking: With access on Katz and Glenn Roads, the five mile biking trail provides a scenic and challenging trail for riders of all skill levels.
- Boat Launch Sites: Public boat launch sites are located at Big Portage Lake, Cedar Lake, Green Lake, Crooked Lake, Mill Lake, Mud Lake, the Winnewana Impoundment, and Walsh Lake. There is a boat launch at Sugarloaf Campground that is limited to camper use only.
- Big Portage Lake Concession/Store: During the summer a concession store is open at Big Portage Lake Beach. Items for sale include firewood, groceries, and souvenirs.
- Cross Country Ski: All cross county ski trails originate at the Eddy Center. These trails are un-groomed.
- Metal Detecting: Any items found must be checked by the park staff and may be held for further investigation. Areas open to metal detecting are very restricted.

A.12 AREAS OF CONFLICT

No areas of conflict were reported.

A.13 PARK USE STATISTICS AND ECONOMIC IMPACTS

Economic Impacts: Michigan State University (Dr. Dan Stynes) developed an economic analysis model known as "MGM2". This model is an update of the MGM model developed by Dr. Ken Hornback for the National Park System in 1995. The purpose of the updated MGM2 model is to estimate the impact of park visitor spending on the local economy. These economic impacts are reflected in terms of sales, income, employment, and value added.

This analysis tool relies on three primary factors in the common equation:

> Economic Impact of Tourism Spending = Number of Tourists (x) Average Spending per Visitor (x) Multiplier (to estimate extended effects of direct spending).

For our purposes of conducting a very basic review of impacts, we have utilized the "MGM2-Short Form" version of the program, which simplifies the extent of analysis required for input, and utilizes more generalized multipliers for spending outputs. For the non economist, this provides an excellent tool for establishing a baseline assessment of the economic impacts of our parks.

Following are the relative economic impacts (based on 2010 data) of Waterloo RA to the economy of Jackson/Washtenaw County:

DIRECT ECONOMIC EFFECTS TO THE COMMUNITY

- Direct spending attributable to Waterloo RA visitors totaled $7,241,000, of which $5,003,000 came from Day-Use, and $2,238,000 from Camping.

- Jobs totaled 228, with 157 related to Day-Use activity and 70 to Camping. (Note…jobs are not full-time equivalent. They include part-time and seasonal positions.)

- Personal Income total is $2,463,000, with $1,701,510 associated with Day-Use of the park and $761,030 associated with Camping.

- Value added (total income plus business taxes) totaled $3,718,000. Day-Use accounted for $2,568,830 and Camping accounted for $1,148,960.

TOTAL ECONOMIC EFFECTS TO THE COMMUNITY (NOTE…this reflects 'Direct Effects' plus the 'Secondary Effects' of visitor spending on the local economy. Secondary Effects (sometimes called 'Multiplier Effects') capture economic activity that results from the re-circulation of money spent by the park visitors in the community.

- Total spending = $9,573,000 (32% over direct spending)

- Jobs = 266 (17% over direct job impacts)

- Personal Income = $3,239,000 (32% over direct spending)

- Value added = $5,155,000 (39% over direct value added)

  NOTE….for purposes of updating economic values, the Consumer Price Index (CPI) is often used to adjust values over time. Through the following link, [**http://www.bls.gov/home.htm**] a CPI Inflation Calculator is located in the category of "Inflation and Consumer Spending".

Appendix B –Summary of Public Input

Public Participation
The Department of Natural Resources Parks & Recreation Division (DNR-PRD) emphasizes that comments on the general management plans are accepted at any time during the process. Two structured approaches to gathering public input are included in the general management plan process. The participation initiatives are summarized below, and the results are presented in this Appendix.

- **August 15-16, 2011 Stakeholder Workshop**
  The purpose of the workshop was to obtain comments on the draft General Management Plans for Waterloo Recreation Area. With assistance from the Planning Team, approximately 100 people and/or organizations were identified as stakeholders. Invitations to the Stakeholder Workshop were sent by email and via post. Approximately 60 people attended the workshop.

  Stakeholders were invited to comment at the meeting. Stakeholders could also comment by completing a survey. The surveys were provided at the workshops to complete in person or submit by mail.

- **October 13, 2011** A public input open house was held to allow the public the opportunity to express their comments about the park. The above noted people were again contacted regarding the public input workshops by mail and email. A notice was published in the local paper. Flyers were posted in the Eddy Center. Stakeholders and others were encouraged to share this information with interested members of the general public. Approximately 25 people attended.

There were two opportunities to provide comments:

1) Comment at one of the workshops
2) A hard-copy survey available at the workshops - for completion on site or submitted via mail

Meeting Summary
DEPARTMENT OF NATURAL RESOURCES
PARKS AND RECREATION DIVISION

General Management Plans – Stakeholder Meeting

DATE: August 15-16, 2011
TIME: 5:00 – 8:00 PM
PLACE: Eddy Discovery Center – Waterloo Recreation Area

Planning Team members and Stakeholders in attendance (Group Represented):
(See sign in sheet that follows)

1. Introductions and Background
   All Team members and Stakeholders introduced themselves and identified the DNR Division, stakeholder group, or issue they represented.

2. Presentations:
   - ❏ Paul Curtis (PRD) - General Management Planning Process & Overview of Draft Plan process for Pinckney & Waterloo Recreation Areas
   - ❏ David Birchler (Birchler Arroyo Associates, Inc.) - Overview of Draft Plan for Pinckney & Waterloo Recreation Areas

3. Questions & Answers/Comments Session
   The Planning Team members fielded questions and heard comments from the stakeholders present.

4. Open House / Stakeholder Survey Session
   - ❏ Open house format was explained, as well as resource maps and materials available for review
     - ☑ Progression of Management Zone Objectives
     - ☑ Aerial Photos
     - ☑ Recreational Resources Maps
     - ☑ Draft management Zones Maps
     - ☑ Detailed Description of Management Zones
     - ☑ Stakeholder Survey

   - ❏ Team members and Stakeholders engaged one another in discussions about each park's resources and its importance to the greater region
   - ❏ Stakeholders who did not return a completed survey promised to send them to Birchler Arroyo Associates, Inc. via mail

5. The meeting was adjourned at approximately 8:00 PM after all Stakeholders had departed.

Waterloo Recreation Area
Workshop Input Worksheet Results
August 15-16, 2011

1. Do you agree with the above statements? Would you add anything to the above statements?
   - ❑ Yes, nothing to add
   - ❑ To provide a safe environment for a diverse use of public land that promotes exercise and nature.
   - ❑ Yes.
   - ❑ Yes, to encourage the public to appreciate natural areas and do more to support their preservation and management. To provide a chance for person to experience nature close to home (as opposed to
   - ❑ Yes, also to preserve and protect hunting and fishing – Good Job!!
   - ❑ Agree.
   - ❑ Yes.
   - ❑ I agree with the Statements of Purpose

2. Do you agree with the above statements? What else makes Waterloo Recreation Area significant to you?
   - ❑ Yes, I do. The many recreation opportunities available.
   - ❑ This is the divide of the Huron & Grand Water Shed
   - ❑ Yes, A long mountain bike trail (18+ miles) linked to the Potawatomi Trail would make Pinckney/ Waterloo a trail system unique to the Midwest and incredibly special.
   - ❑ Yes; 1) love, 2) topographic diversity; 3) range of recreational opportunities; 4) chances to educate youth/give young persons a chance to interest with nature.
   - ❑ Yes.
   - ❑ Provides land for hunting in SE Michigan (hunters are the main $ source and PR $ bought a lot of land).
   - ❑ Agree
   - ❑ Yes.
   - ❑ Current Statements of Significance: I agree with the Statements of Significance. Waterloo Recreation Area is significant to me because of the many opportunities to enjoy a diverse natural environment which is very close to my home and which I can enjoy year round without driving for many hours. I especially love the opportunities to experience the natural beauty of Waterloo Recreation Area from the back of a horse in all seasons.

3. What natural resources are important?
   - ❑ All of them in the Waterloo Rec Area.
   - ❑ Native plant and animal species, as undisturbed as possible.
   - ❑ They're all important but what is especially important is the ability to provide epic level recreation for a variety of sports in a setting close to a lot of population.
   - ❑ Lakes and Forest
   - ❑ Wonderful to have pristine land so close to big metro area.

4. What cultural resources are important?
   - ❑ The past use of this area by Native Americans, the CCC Footprint (that initially built this infrastructure in the park and the Eddy Center.
   - ❑ Native American, early settlers, farm history.
   - ❑ All of them
   - ❑ Wetlands
   - ❑ Cultural resources are important. However, I do not think that the cultural area around the old prison site needs to be as large as it has been shown on the current maps. It would adequate to have a plaque or marker on the site where the prisoner of war camp stood. The lagoon and surrounding areas are not historically significant, as they were later additions.

5. What are the education and interpretation opportunities?
   - ❑ Teach people about how to protect and preserve; identification and information on plants and animals.
   - ❑ Those provided by the Eddy Center staff and augmented by the WNHA.

6. What are the recreation opportunities?
   - ❑ Hiking, Boating, Fishing, Hunting, Camping
   - ❑ Winter sports, sledding hill at Waterloo & M-52
   - ❑ I'm mostly interested in trail running, mountain biking and kayaking.
   - ❑ Bicycling Trails using existing and adding additional for return.
   - ❑ There are multiple recreation opportunities in Waterloo Recreation Area, including horseback riding, camping, camping with horses, hunting, fishing, water sports, nature walks, hiking, wildlife and wildflower observation, mushroom hunting, photography and many more. It is important that all users treat other types of users with respect and recognize everyone's right to quiet enjoyment of the Recreation Area.

7. What should be the visitor experience?
   - ❑ As natural as possible while providing for non-motorized traffic where appropriate.
   - ❑ Since you mentioned that "Up North Feel", an experience of that "Up North Feel" without going up north.
   - ❑ Joy of outdoors.
   - ❑ A range of possibilities; from guided to solo exploration.

8. Are there any known user conflicts or issues?
   - ❑ Mountain bikers and horses are best segregated.
   - ❑ I know there have been conflicts with horse groups and bikers and hikers in the past. Not aware of any now.
   - ❑ None. Plenty of land for everyone.
   - ❑ Most trail users would benefit from trails customized for their use.
   - ❑ There have been reported cases of harassment by mountain bikers toward horseback riders and other types of Recreation Area users. It is important to discourage this type of behavior and to deal with those who harass other users, so that all may enjoy the Recreation Area peacefully.

9. What should be the identity of Pinckney Recreation Area
   - ❑ Natural and accessible to non-motorized trail users.
   - ❑ As a recreational destination for Southeast Michigan to enjoy all of the recreational opportunities available here in the WRA.
   - ❑ Michigan outdoors.

Other Comments:

- ❑ GIS Mapping needs improvement. Legend on side of maps should only show the information needed for that map. Go to Lyndon Township's Recreation Plan on the website to see some clear GIS mapping.
- ❑ Good presentation.
- ❑ Most of the land zones seem appropriate. Areas that limit hunting and limit active habitat management concern me. I do not see any limiting areas outside campgrounds/nature centers. The plan seems reasonable to me.
- ❑ Please keep trails open for all users. Thank you.
- ❑ As a member of the Equestrian Trailways Subcommittee, I believe that opening the Waterloo Pinckney Trail and Lakeland Trail to horses along their entire length would contribute greatly to the statewide network of horse trails which the subcommittee is tasked with helping to create. However, I am very concerned that mountain bikers may create problems for equestrian users if both are permitted to use the same trails. I hope that any changes in the use of these trails will be carefully planned to avoid user conflict, possibly with separate trails or regulation of dates/times of use.

Additional comments from aerial boards

- More accessibility for day camps.

Sign In Sheet from DNR Stakeholders Workshop
Pinckney Recreation Area | Waterloo Recreation Area
August 15-16, 2011

Name	Affiliation	Address	Phone #	Email Address
Tom Caplis	Chelsea R & Gun	1703 Lingane Road	475-8561	
Brad Utrup	Ruffled Grouse Society	332 Territorial Road 48158	419-302-7784	Utrupb@michigan.gov
Jason Aric Jones	MMBA			
Larry Bean	DEQ Geologists	204 Washington Chelsea MI 48118	734-475-4648	Beanl@michigan.gov
John Francis	Lyndon Township	17755 N. Territorial Road	475-2401	Supervisor-lyndon@twp-lyndon.org
Fred Fischmeister	Back Country Horsemen	7900 S. Draper Road Jackson, MI	517-937-4257	Muleman189@gmail.com
Greg Cook	MMBA	470 Fairwood Pinckney	734-878-6190	Gregck19@gmail.com
Lisa Gamero	PRD			Gramerol@michigan.gov
Alicia Selden	PRD			Seldena@michigan.gov
Ron Beyer	WHA, BCHA	15350 Waterloo Muneth Road Grass Lake, Mi 49240	734-475-1937	Horsesamron1@juno.com
Amilee Beyer	WHA, BCHA	15350 Waterloo Muneth Road Grass Lake, Mi 49240	734-475-1937	Horsesamron1@juno.com
Pat Carney	Putnam Twp	3280 WM 36 Pinckney 48169	734-878-3131	Treasurer@putnamtwp.us
Christine Linfield	Chelsea	305 S. Main St.	734-475-1898 x210	Clinfield@city-chelsea.org
Arlene Taylor	Waterloo Hunt Club	11574 Glenn Grass Lake, MI	517-522-3409	Actaylor@umich.edu
Matthew Lanx	Waterloo Hunt Club	11574 Glenn Grass Lake, MI	517-522-3409	Mlanx@umich.edu
Liz Roxberry	Cedar Lake Outdoor MUCC	2500 Pierce Road Chelsea PO Box 30235 Lansing, MI 48909	517-927-8364	Lroxberry@mucc.org
Steve Schneider	Pheasants Forever	1857 Samer Road Milan 48160	734-646-5710	Sschneider@wsr-cpa.com
Charity Steere	Legacy Land Conservancy	5259 Monte Road Grass Lake 49240	517-522-5010	Charity_steere@gmail.com

Barry Lonik	Citizen	11300 Island Lake Road Dexter 48130	734-223-2321	Blonik12 @aol.com
Chuck Dennison	DNR-PRD	Pinckney Rec Area	734-426-4913	Dennison@michigan.gov
Greg Byce	DNR-PRD	Waterloo Rec Area	734-475-8307	Byceg@michigan.gov
Bill Mayer	MMBA	Ann Arbor, MI	734-604-0414	Poto@mmba.org
Jeff Dehring	WCPARC	Ann Arbor, MI	734-971-6337	Dehringj@ewashtenaw.org
Paul Curtis	MDNR-PRD			
Ted Welsh	MMBA	7230 Fox Chase Lane Westland 48185	734-639-6182	Tswelsh@att.net
Rudy Tomborin	RGS	901 N. Elizabeth Dearborn 48128	313-564-9216	Dudpete2@wowway.com
John Colone	Hell, MI	4063 Patterson Lake Road Hell, MI 48169	810-599-9666	John@hell24.com
Lathe Claflin	Jackson/Washtenaw Audubon	11300 Glenn Road Grass Lake 49240	522-3949	Lathe.claflin@gmail.com
Ron Hoffman	Jackson Audubon	6142 Territorial Road Pleasant Lake 49272	517-769-6891	Ronandjoanhoffman@yahoo.com
Tom Norris	Waterloo	10550 Fowler Road Hanover	517-524-8680	Tbob43@msn.com
Dan Hovater	MUCC	4695 Norvell Grass Lake	517-518-1045	Hovaterdan@yahoo.com
Norm Roller	MMBA	3850 W. Loch Alpine Dr. Ann Arbor 48103	734-426-9737	Normroller@comcast.net
Stani Bohac	Potawatemi Chaper of MMBA	2800 Brockman Blvd Ann Arbor 48103	734-426-9737	Sbohac@umich.edu
Marc Keezer	Lyndon Twp		734-475-2401	Marckeez@gmail.com
GreggV. Burg	Waterloo Natural History Association	6655 Jackson Road #611 A2 48103	734-662-3238	Greggb@thomsonshore.com
Sally Rutzky	Pinckney Rec Area Steward	9640 Joslin Lake Road Gregory MI	734-433-0543	Srutzky@earthlink.com
Kris Olsson	Huron River Watershed Council	1100 N. Main Ste 210	734-769-5123	Kolsson@hrwc.org
Don Walz	Farmline Campground	8020 Clear Lake Road Grass Lake	734-260-9009	Farmlanecampground@yahoo.com
Gary O. Moore	Chelsea Road & Gun MUCC	135600 McKinley Chelsea	475-71247	
Tom Keene	WHA	6280 Baldwin	522-6482	

Randy Step	Running Fit	5700 Jackson Road A2	734-929-9026	Randy@runningfit.com
Chad Simpson	WHA	19275 Sandboen Manchester	734-323-0011	
Chris Ritter	Washtenaw PF	38395 Tyler Romulus 48174	734-740-7300	Gspman@comcast.net
Tom Brown	YMCA Camp	5305 W. Michigan Ave. Tipton, MI 49287	517-605-4934	
Ann Jarema	Pinckney DDA	2430 E. M-36 Pinckney MI 48169	734-878-6635	Jaremaann@hotmail.com
Kathy Moffit	Pinckney Trail Riders	16041 Arnold Road Gregory 48137	734-845-6996	
Elsa A. Elmore	Pinckney Trail Riders	6693 Cedar Lake Road	734-878-1356	Norway017@msn.com
Jon LaBossiere				Jonlaboss@hotmail.com
Mike Casey	Aberdeen Bike	1101 S. Main Suite 200 Chelsea Mi 48110		
Jan Herrick	Equine Trailways Subcommittee	3230 Brighton Road Howell 48843	517-540-9943	Janlherrick@gmail.com
Barb McCarter	PRD		734-426-4913	Mccarterb@michigan.gov

Meeting Summary
DEPARTMENT OF NATURAL RESOURCES
PARKS AND RECREATION DIVISION

General Management Plans – Public Input Meeting
DATE: October 13, 2011
TIME: 4:00 – 8:00 PM
PLACE: Eddy Discovery Center – Waterloo Recreation Area

AGENDA

All Team members introduced themselves and identified the DNR Division they represented.

1. Presentations:
   - ❑ Paul Curtis (PRD) - General Management Planning Process & Overview of Draft Plan process for Pinckney & Waterloo Recreation Areas
   - ❑ David Birchler (Birchler Arroyo Associates, Inc.) - Overview of Draft Plan for Pinckney & Waterloo Recreation Areas

2. Questions and Answers

3. Open House
   - ❑ Participants were invited to visit each of the map stations and talk to Planning Team members
   - ❑ Post-it notes were available to add any comments to the map
   - ❑ Participants who did not return a completed survey promised to send them to Birchler Arroyo Associates, Inc. via mail

Additional comments

- The following is recommended as an addition to the Statement of Purpose: "To preserve and restore park's unique natural areas---". A plan that identifies and actively restores natural areas would ensure future biodiversity
- Within the park some statement of a goal to limit light pollution, particularly around the "developed recreation zones", would be important. In particular around the Cassidy Lake detention area where light pollution impacts the surrounding park zones.

Appendix C –Planning Team Meeting Summaries

DEPARTMENT OF NATURAL RESOURCES
General Management Plan - Phase I
Pinckney & Waterloo Recreation Areas

Team Meeting #1
May 18, 2011 9 a.m. to 4 p.m.
Eddy Discovery Center, Waterloo RA

Overview: Paul Curtis explained the General Management Planning process and gave an overview of Pinckney and Waterloo Recreation Areas. He emphasized the importance of connectivity between the two recreation areas. The future transfer of property from AgIndustries was also explained. Several other observations were made for the team:

- Michigan Mountain Biking Association (MMBA) desires trails in Waterloo RA
- MMBA wants to create a "legacy" trail that would connect both parks and serve as a regional or national destination
- Equestrians want expanded trails in both parks
- There was some recent negative press about the equestrians prior to a recent trail ride at Waterloo
- There is a current multi-community approach to create branding for the region as a recreation destination ("Gateway to recreation")
- The NRC dedicated boundary for these parks is under review
- There is an interest in closure of Cassidy Lake Road (by the Township and DNR)
- The Waterloo Horsemen's Association has an interest in Camp Waterloo
- Both parks feature a Biodiversity Stewardship Area

Paul outlined the next steps in the process, which include developing Purpose and Significance statements, discussions about users, their needs, and how those relate to PRD/WD management goals. We will also discuss co-management between PRD and

WD; the last update to the management agreement was in the 1970's. Updates are needed to reflect current DNR organizational structure and processes.
David briefly described the process and emphasized the importance of participation in team meetings. Phases I and II take about 18 months to complete; both must be finished by September 30, 2012. There are typically three team meetings in the planning process before the stakeholder meeting, and the public input meeting. He asked the team to begin thinking about who stakeholder groups and individuals are and getting their contact information. These meetings are important to the process and will be held in the late fall/early winter.

Introduction to Waterloo Recreation Area (Gary Jones)

- Mill Lake Outdoor Center
    - Built by the Works Progress Administration (WPA)
    - Would be good candidate for rehabilitation and reuse
    - Eligible for National Historic Register as a historic district
- Cedar Lake Outdoor Center
    - Built by the Civilian Conservation Corps (CCC)
    - Used as a Michigan United Conservation Club (MUCC) kids camp about 6 weeks/year
    - MUCC does maintenance and built shooting range; electrical/utility upgraded in 2010
- Camp Waterloo
    - Built by the CCC; served as a POW camp during WWII
    - Condemned; buildings rotting and suffering arson damage
- Cassidy Lake Resident Work Camp
    - Under National Park Service administration in the 1930's, built through a cooperative partnership between the NPS and National Youth Administration (NYA)
    - Eligible for National Historic Register
    - Used by the Michigan Department of Corrections as a youth work camp since the 1940's
- Other cultural resources:

- Many of the lakes are natural and would likely have served as resources for native Americans
- Native American trail runs through the area
- Early Europeans settled in the area also
- Waterloo Farm Museum – run by the Waterloo Historical Society

- Natural resources include:
  - Natural Area—Black spruce bog found here
  - Haehnle Sanctuary (Audubon) – staging area for sand hill cranes
  - Many element occurrences found throughout the area
    - Animal, plant, and natural communities
    - Species of special concern, threatened, and endangered (State and Federal levels) including Blanding's turtle, eastern mississauga, and cerulean warbler
  - Minerals (AgIndustries)
  - Wetland complex: Waterloo/Munith Road
  - Invasive species: garlic mustard, etc.
- Recreational Resources
  - Both modern campgrounds were updated recently
  - Rustic campground should be improved this year
  - Water resources: boating access on ten lakes; chain of lakes
  - Riding stable is closed; reopening would require significant renovation and would likely be a lease rather than concession – no residence for operator; no septic field
- Stakeholders include: MUCC, AgIndustries, DOC, Waterloo Hunt Club, equestrians, hikers, MMBA, Haehnle Sanctuary, Corner Deli and other stores, Washtenaw County (parks, sewer system), Waterloo Horsemen's Association, Waterloo Historical Society, two friends' groups, more….

Introduction to Pinckney Recreation Area (Chuck Dennison)

- Old homestead, right off the most popular trail – land unsuitable for farming, built late 1800's-early 1900's
    - Opportunity for interpretive signage
- Crooked lake Campground & fishing pier (25 years old)
- Potawatomi Trail (a.k.a. "the Poto")
- Invasives include garlic mustard
- ½ mile of boardwalk and bridges throughout the park (most built with DOC labor)
- Navigable waterway connecting chain of lakes
- Silver Lake Unit – most popular
    - 500 space parking lot
    - Trailhead for Poto and Waterloo-Pinckney Trails
    - Silver Lake – spring-fed, clear, clean lake – great for swimming
    - Sand beach volleyball is very popular
    - Private Boys and Girls Camp (Toledo) across the lake; campers often come across to use facilities
    - YMCA camp nearby
    - Concession building with no concessionaire; mobile food trailer will come this summer
- Half Moon Lake Unit
    - 500 space parking lot
    - 35 space boat launch
    - Underutilized; tornado in 1994 took out oak grove and concession/restroom building. Portable toilets not popular with users.
    - Two picnic shelters
    - Beach developed in low area; requires sand to be added to beach annually
- Adjacent land use conflicts:
    - Waterloo portion of Waterloo-Pinckney Trail meets Pinckney portion at M-52, across residential driveway (which is in trespass)

    - Glenn Brook Road is signed as “private road,” but state land abuts both sides for most of the road, and it is a public road
    - Top of the World subdivision is better example of public access through state rec area by easement,
    - Public access is important to demonstration area, as Federal funds were used
- Dam in hell – owned/operated by Livingston County
- Lakelands Trail – leased to adjacent communities for use and maintenance
    - Putnam Township is planning to expand to Hamburg and will accommodate hikers, bikers, and equestrians within same trail.
- Losee Lake Trail – only hikers; well-used 3-mile trail. Low growth, no forest
- Pickerel Lake
    - High demand; no boat launch from shore
    - No alcohol within ¼ mile of launch to limit “party crowd”
    - University of Michigan Edwin S. George Reserve (ESGR): About 1,400 acres wned and run by the UM since 1930 for the purposes of providing research and education opportunities in the natural sciences and preserving the native flora and fauna.
    - Bruin Lake Campground – new camper cabin
    - Gorman lake – rough road to the lake

Ray briefly discussed upcoming acquisitions; Stewardship is developing a new map and setting priorities for an updated NRC Dedicated Boundary. David noted recommendations from the planning team during this process will help Stewardship.

Field Tour: The Planning Team toured the park areas, mainly those highlighted during the discussions. Future team meetings will include additional opportunities to tour the park.

Adjournment and Next Meeting: The meeting was adjourned at 4:00 p.m. The next will be in mid-June.

DEPARTMENT OF NATURAL RESOURCES

General Management Plan - Phase I

Pinckney & Waterloo Recreation Areas

Team Meeting #2

June 20, 2011 10 a.m. to 2 p.m.

Eddy Discovery Center, Waterloo RA

Overview: David Birchler of Birchler Arroyo Associates, Inc. gave an overview of the maps available for the meeting. These included aerial photos, identification of wetlands, woodlands, park amenities, and elevation models. The team then divided into two groups to discuss unique features of both Pinckney and Waterloo Recreation Areas.

Unique features of Pinckney:

- Chain of lakes
- No clear single point of entry
- Trail systems, extensive & connect to Lakelands Trail State Park
- Hunting – fishing – boating – trapping unique to SE Michigan
- Threatened & endangered species – large potential habitat area – wildlife corridors
- Significant gaps are challenge to protecting habitat
- Exemplary natural habitat
- In area designated for biodiversity
- Archeological & pre-historic sites
  - Lakes chain and waterways – pre-historic
  - Homestead sites
- Overnight recreation opportunities from rustic pack-in to developed (Yurt, cabin, and modern campground)
- Size of Pinckney & Waterloo combined (approximately 30,000 acres)– very significant in SE Michigan.
- Destination for health and fitness events and individual users
- Location in relation to State's population center
- "Up north" feel in southeast lower Michigan due to combo of land mass and natural features.
- More concentrated day-use than Waterloo
- Unique geology and large land area assists the potential for species conservation.
- Lakelands Trail as potential connector.
- Potential trail connection to HCMA parks.

- Local Townships potential trail connections.
- Great diversity of users – hunters, birders, trail runners, geocachers, equestrians, hikers, mountain bikers, fishermen/women.
- University of Michigan Bio Station within NRC boundary.
- University of Michigan Stichfield Woods – potential connection to HCMA
- Used by University classes & research.

Unique features of Waterloo:

- More rare animals & plants species then any other park in system.
- More exemplary natural communities
- In area designated for biodiversity
- Co-Management by both Wildlife & Recreation Divisions
- Black Spruce bog – National Natural Landmark and State Natural Area
- National Recreation Demonstration area – 1930's.
- 4 eligible historic districts:
  - POW Camp (Camp Waterloo)
  - Mill Lake – WPA
  - Cedar Lake – CCC
  - Cassidy Lake – NYA
- Eddy Discovery Center – interpretive activities
- 70 cultural resource sites, historic sites, prehistoric and ethnological.
- Campgrounds
- Disc golf
- Aggregate Industries (future addition of 324 acres to the park)
- Access to population.
- Size – 3rd largest in system; largest in Lower Peninsula
- No clear single point of entry
- Fishing – boating – hunting – trapping – birding – cross country skiing
- Close to Audubon Sanctuary - sand hill cranes
- MUCC-operated outdoor center
- Equestrian trails
- 2 active Friends groups
- Fox hunting – Hunt Club
- WPA – Waterfowl Production Area
- Farm Museum – operated by Historical Society

- Idle stable facility
- Indiana bat – Federally endangered
- “Quiet” boat activities (gravel launches)
- Doyle Lake – exemplary aquatic community
- Large area around Discovery Center – no hunting & snowmobiles – quiet in Fall & Winter
- Private equestrian campgrounds adjacent to equestrian trails.
- State-designated Natural Beauty Roads in recreation area.

Following this discussion, groups were asked to review draft management zones for both parks. Adjustments will be made based on comments provided and the draft maps and statements of significance will be reviewed and discussed at the next team meeting.

Pinckney Draft Management Zones Notes

- Leased farm fields: offer revenue generation, but have potential for future habitat. Note in text that farming will continue as an interim activity.
- Bruin Lake Campground
  - Wet camp sites to be relocated to west.
- Intensity of Events
  - Sometimes at odds with Management Zone concept
  - Buffer “Poto” trail with 100’ developed recreation for those potential accommodations
  - Waterloo-Pinckney Trail – hiking only (1 time per year ok for bike event).
- South portion adjacent to Waterloo Recreation Area: consider trail potential across M-52.
  - Change to Back Country – North of M-52
  - West of Bruin Lake Campground – change to Back Country
- Boat launch sites: small areas around parking lots – developed recreation
- Yurt – developed recreation
- “North Unit” makes sense as Primitive
- Cassidy as “trail” could be center of a semi-wilderness area.
- Stewardship will outline Exemplary Areas at Team Meeting 3.
- Add Aggregate Industries land to Management Zone Plan
  - Potential for forest and much-needed native grassland
  - Parking area for more active use of waterbody (recognize that swim beach may be at odds with native grassland).
  - South end of Waterloo could use added parking.

Adjournment and Next Meeting: The meeting was adjourned at 3:00 p.m. The next will be July 27.

DEPARTMENT OF NATURAL RESOURCES
General Management Plan - Phase I
Pinckney & Waterloo Recreation Areas

Team Meeting #3
July 27, 2011 10 a.m. to 2 p.m.
Putnam Township Hall

Overview: The Planning Team reviewed the draft management zone maps and provided comments and input for refining the proposed zones.

Pinckney Recreation Area:

- After considerable discussion about the natural features and recreational opportunities in the proposed Ecologically Sensitive zones, the team agreed that high level of protection is not necessary and changed those areas to Primitive and Backcountry for compatibility with adjacent areas. The team agreed that the management plan text will include references to these exemplary communities (Ray will provide information to the team), and will address specific concerns including adventure racing, orienteering, primitive camping, and equestrian events, as well as educational uses.
- The team agreed to expand the Developed Recreation zone at the Bruin Lake campground west into the sharecropped fields to potentially accommodate trails for campers. The text will note the desire to develop a hike/bike shared-use trail that would connect to the Potawatomi Trail. Such a future trail would be zoned as a backcountry corridor, and may run through a differently-zoned area.
- The team discussed South Lake, and the potential for the eastern side to accommodate either a yurt or primitive hike-in/paddle-in camping in the future. Despite the area's desirability as a habitat for the Mississauga snake, the primitive and remote feel around the lake make it ideal for a rustic camping experience. Should future plans include a yurt, the area would be zoned as appropriate.

Waterloo Recreation Area:

- The team suggested reviewing the funding sources maps as we move forward to ensure that proposed zones do not conflict with restrictions that may be in place.
- Ray noted four parcels are being added to the park boundary and will forward a pdf to Birchler Arroyo Associates for inclusion into the maps.
- The team discussed the southwest corner of the park, which had been suggested for either Primitive or Backcountry and agreed to zone it Primitive.
- The team noted that Camp Waterloo and the immediate adjacent area (including the lagoons site) should be zoned Developed Recreation to accommodate future camping.
- The Aggregate Industries property and adjacent property were discussed and it was suggested that there be scenic overlay zones at the three nearby high points. The team also discussed opportunities to provide parking that could potentially accommodate an appropriate number of cars. This may be done in multiple locations, rather than in one large lot that would remain vacant for much of the year.

- The team discussed ADA-compliant trails and it was noted that there is sufficient latitude in the ADA to allow less intensive trail types to serve those with mobility issues, and the proposed management zones should not present a conflict.
- The team agreed to zone all boating access sites as Developed Recreation, as was shown in the Pinckney map.

Adjournment and Next Meeting: The meeting was adjourned at 2:30 p.m. The next meeting will be a stakeholder workshop. The tentative dates are August 15-16 at the Eddy Center and will accommodate the wide variety of stakeholder groups. Birchler Arroyo will solicit team members' input into the stakeholder list over the next few days.

DEPARTMENT OF NATURAL RESOURCES

General Management Plan - Phase I

Pinckney & Waterloo Recreation Areas

Team Meeting #4

September 14, 2011 10 a.m. to 12 p.m.

Conference Call

Overview: The Planning Team reviewed the draft management zone maps and provided comments and input for refining the proposed zones.

Document Notes:

- Future trail connection between Pinckney & Waterloo should be handled in text as an item for further evaluation during Phase 2
- Future equestrian trail connection between north Pinckney and south Pinckney can be handled in text, noting that it will require purchase of private property
- Ray Fahlsing, Gary Jones, Chuck Dennison, Joe Strach and Paul Curtis will conduct a side meeting to develop language to guide management decision to issue special use permits (frequency and intensity)
- Future yurt site(s) on South Lake can be identified in Phase 2 – appears it would be feasible to allow canoe in and hike in access without need for road
- October 6 meeting scheduled to discuss the extent of future development at Mill Lake and Cedar Lake ODCs for such things as a high ropes course and an expanded shooting range – Katie would like trail connections to remain Primitive for the experience provided to school groups
- Add a Significance Statement to both parks that identifies this as “largest area for recreational hunting opportunities in Southeast Lower Michigan”

Map Changes:

- Add Hell to all maps
- Remove Developed Recreation designation from Potawatomi Trail (rustic camping at Blind Lake already serves the trail)
- Fix the Poto Trail connection between Silver Lake and Blind Lake
- Sullivan Lake Boat Launch (east of South Lake) – change to Backcountry
- South Lake Boat Launch – delete Developed Recreation from the wetland around the river
- Joslyn Lake Boat Launch - reduce size of Developed. Rec. to just the area of the launch

- Gosling Lake Boat Launch (small lake surrounded by the Poto Trail) – change to Backcountry
- Pickerel Lake Boat Launch (south of Crooked Lake) – change to Natural Resource Recreation
- Expand our Inset Map to incorporate Cedar Lake ODC – see Dave
- Doyle Lake Boat Launch – change to Primitive
- Cedar Lake Boat Launch – remains Developed Recreation but make it smaller to reflect actual area in use
- Ray F. suggested creating symbology for cemeteries – Lisa G pointed out that the Cultural Zone overlay takes cemeteries into account
- Crooked Lake Boat Launch – stays Developed Recreation
- Winnowana Lake Boat Launch – change to Backcountry with added boat launch symbol
- Green Lake Boat Launch – keep Developed Recreation (because this is new yurt site) but compare with aerial photo to make sure the red area is large enough
- Mill Lake Boat Launch - change to Backcountry
- Walsh Lake Boat Launch - change to Backcountry

Adjournment and Next Meeting: The meeting was adjourned at 12 p.m. The next meeting will be a public input open house. The date is set for Thursday October 13 at the Eddy Center, from 4 – 8 p.m. to accommodate the public. Birchler Arroyo will send the maps out to the planning team one more time for a final review.